Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	12	"adaptive searching"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 11:52
L2	63	"K nearest neighbor" and (feature adj vector and index)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 11:52
L3	11	"K nearest neighbor" and (feature adj vector same space and index) and @ad<"20001220"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 11:52
L4	1	"similarity measurement" adj vector and @ad<"20001220"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 11:53
L5	217	"K nearest neighbor" and similarity	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:11
L6	0	1 and 5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:11
L7	44	2 and 5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:11
L8	3	("K nearest neighbor" and (feature adj vector same space and index) and @ad<"20001220") and similarity adj measure$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:12
L9	11	"K nearest neighbor" and (feature adj vector same space and index) and @ad<"20001220"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:12
L10	1	("K nearest neighbor" and (feature adj vector same space and index) and @ad<"20001220") and similarity adj measure$4 and (query$3 or search$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:12
L11	6	"euclidean distance" and ("K nearest neighbor" and (feature adj vector same space and index) and @ad<"20001220")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:13

L12	1	"euclidean distance" and (("K nearest neighbor" and (feature adj vector same space and index) and @ad<"20001220") and similarity adj measure$4 and (query$3 or search$3))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:13
L13	9	collator near4 dictionary	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:13
L14	1	("K nearest neighbor" and (feature adj vector same space and index) and @ad<"20001220") and similarity adj measure$4 and chang$3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:13
L15	0	query and "changed similarity" and vector and @ad<"20001220"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:14
L16	1	("approximation filtering" and @ad<"20001220") and measurement	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:14
L17	3	"approximation filtering" and @ad<"20001220"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2004/12/10 12:14

Terms used
K nearest neighbor and **feature vector space** and **similarity measurement**

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1 Image Retrieval: Adaptive nearest neighbor search for relevance feedback in large image databases
P. Wu, B. S. Manjunath
October 2001 **Proceedings of the ninth ACM international conference on Multimedia**

Full text available: pdf(1.38 MB) Additional Information: full citation, abstract, references, citings, index terms

Relevance feedback is often used in refining similarity retrievals in image and video databases. Typically this involves modification to the similarity metrics based on the user feedback and recomputing a set of nearest neighbors using the modified similarity values. Such nearest neighbor computations are expensive given that typical image features, such as color and texture, are represented in high dimensional spaces. Search complexity is a ciritcal issue while dealing with large databases and ...

Keywords: nearest neighbor search, relevance feedback, similarity retrieval

2 Optimal multi-step k-nearest neighbor search
Thomas Seidl, Hans-Peter Kriegel
June 1998 **ACM SIGMOD Record , Proceedings of the 1998 ACM SIGMOD international conference on Management of data**, Volume 27 Issue 2

Full text available: pdf(1.54 MB) Additional Information: full citation, abstract, references, citings, index terms

For an increasing number of modern database applications, efficient support of similarity search becomes an important task. Along with the complexity of the objects such as images, molecules and mechanical parts, also the complexity of the similarity models increases more and more. Whereas algorithms that are directly based on indexes work well for simple medium-dimensional similarity distance functions, they do not meet the efficiency requirements of complex high-dimensional and adaptable ...

3 Dynamic vp-tree indexing for *n*-nearest neighbor search given pair-wise distances
Ada Wai-chee Fu, Polly Mei-shuen Chan, Yin-Ling Cheung, Yiu Sang Moon
July 2000 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 9 Issue 2

Full text available: pdf(232.09 KB) Additional Information: full citation, abstract, index terms

For some multimedia applications, it has been found that domain objects cannot be

represented as feature vectors in a multidimensional space. Instead, pair-wise distances between data objects are the only input. To support content-based retrieval, one approach maps each object to a *k*-dimensional (*k*-d) point and tries to preserve the distances among the points. Then, existing spatial access index methods such as the R-trees and KD-trees can support fast searching on the resulting
***Keywords**: Content-based retrieval, Indexing, Nearest neighbor search, Pair-wise distances, Updating*

4 Searching in high-dimensional spaces: Index structures for improving the performance of multimedia databases
Christian Böhm, Stefan Berchtold, Daniel A. Keim
September 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 3

Full text available: pdf(1.39 MB) Additional Information: full citation, abstract, references, citings, index terms

During the last decade, multimedia databases have become increasingly important in many application areas such as medicine, CAD, geography, and molecular biology. An important research issue in the field of multimedia databases is the content-based retrieval of similar multimedia objects such as images, text, and videos. However, in contrast to searching data in a relational database, a content-based retrieval requires the search of similar objects as a basic functionality of the database system ...

Keywords: Index structures, indexing high-dimensional data, multimedia databases, similarity search

5 Region proximity in metric spaces and its use for approximate similarity search
Giuseppe Amato, Fausto Rabitti, Pasquale Savino, Pavel Zezula
April 2003 **ACM Transactions on Information Systems (TOIS)**, Volume 21 Issue 2

Full text available: pdf(1.01 MB) Additional Information: full citation, abstract, references, index terms

Similarity search structures for metric data typically bound object partitions by ball regions. Since regions can overlap, a relevant issue is to estimate the proximity of regions in order to predict the number of objects in the regions' intersection. This paper analyzes the problem using a probabilistic approach and provides a solution that effectively computes the proximity through realistic heuristics that only require small amounts of auxiliary data. An extensive simulation to validate the t ...

Keywords: Approximation algorithms, approximate similarity search, metric data, metric trees, performance evaluation

6 Web page classification based on k-nearest neighbor approach
Oh-Woog Kwon, Jong-Hyeok Lee
November 2000 **Proceedings of the fifth international workshop on on Information retrieval with Asian languages**

Full text available: pdf(653.66 KB) Additional Information: full citation, abstract, references

Automatic categorization is the only viable method to deal with the scaling problem of the World Wide Web. In this paper, we propose a Web page classifier based on an adaptation of k-Nearest Neighbor (k-NN) approach. To improve the performance of k-NN approach, we supplement k-NN approach with à feature selection method and a term-weighting scheme using markup tags, and reform document-document similarity measure used in vector space model. In our experiments on a Korean commercial Web direct ...

Keywords: Web page classification, feature selection, k-nearest neighbor approach,

similarity measure, term weighting scheme, text categorization

7 Semantic clustering and querying on heterogeneous features for visual data
Gholamhosein Sheikholeslami, Wendy Chang, Aidong Zhang
September 1998 **Proceedings of the sixth ACM international conference on Multimedia**
Full text available: pdf(1.37 MB) Additional Information: full citation, references, citings, index terms

8 Data clustering: a review
A. K. Jain, M. N. Murty, P. J. Flynn
September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3
Full text available: pdf(636.24 KB) Additional Information: full citation, abstract, references, citings, index terms, review

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into groups (clusters). The clustering problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad appeal and usefulness as one of the steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in assumptions and contexts in different communities has made the transfer of useful generic co ...

Keywords: cluster analysis, clustering applications, exploratory data analysis, incremental clustering, similarity indices, unsupervised learning

9 Research sessions: query processing II: Efficient k-NN search on vertically decomposed data
Arjen P. de Vries, Nikos Mamoulis, Niels Nes, Martin Kersten
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**
Full text available: pdf(1.26 MB) Additional Information: full citation, abstract, references, index terms

Applications like multimedia retrieval require efficient support for similarity search on large data collections. Yet, nearest neighbor search is a difficult problem in high dimensional spaces, rendering efficient applications hard to realize: index structures degrade rapidly with increasing dimensionality, while sequential search is not an attractive solution for repositories with millions of objects. This paper approaches the problem from a different angle. A solution is sought in an unconvent ...

10 Finknn: a fuzzy interval number k-nearest neighbor classifier for prediction of sugar production from populations of samples
Vassilios Petridis, Vassilis G. Kaburlasos
December 2003 **The Journal of Machine Learning Research**, Volume 4
Full text available: pdf(360.76 KB) Additional Information: full citation, abstract, index terms

This work introduces *FINkNN*, a k-nearest-neighbor classifier operating over the metric lattice of conventional interval-supported convex fuzzy sets. We show that for problems involving populations of measurements, data can be represented by fuzzy interval numbers (FINs) and we present an algorithm for constructing FINs from such populations. We then present a lattice-theoretic metric distance between FINs with arbitrary-shaped membership functions, which forms the basis for *FINkNN*' ...

11 The SR-tree: an index structure for high-dimensional nearest neighbor queries
Norio Katayama, Shin'ichi Satoh

June 1997 **ACM SIGMOD Record , Proceedings of the 1997 ACM SIGMOD international conference on Management of data**, Volume 26 Issue 2

Full text available: pdf(1.41 MB) Additional Information: full citation, abstract, references, citings, index terms

Recently, similarity queries on feature vectors have been widely used to perform content-based retrieval of images. To apply this technique to large databases, it is required to develop multidimensional index structures supporting nearest neighbor queries efficiently. The SS-tree had been proposed for this purpose and is known to outperform other index structures such as the R*-tree and the K-D-B-tree. One of its most important features is that it employs bounding spheres rather than boundi ...

12 Indexing large metric spaces for similarity search queries

Tolga Bozkaya, Meral Ozsoyoglu

September 1999 **ACM Transactions on Database Systems (TODS)**, Volume 24 Issue 3

Full text available: pdf(281.78 KB) Additional Information: full citation, abstract, references, citings, index terms, review

One of the common queries in many database applications is finding approximate matches to a given query item from a collection of data items. For example, given an image database, one may want to retrieve all images that are similar to a given query image. Distance-based index structures are proposed for applications where the distance computations between objects of the data domain are expensive (such as high-dimensional data) and the distance function is metric. In this paper we consider ...

13 Approximate similarity retrieval with M-trees

Pavel Zezula, Pasquale Savino, Giuseppe Amato, Fausto Rabitti

December 1998 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 7 Issue 4

Full text available: pdf(265.65 KB) Additional Information: full citation, abstract, citings, index terms

Motivated by the urgent need to improve the efficiency of similarity queries, approximate similarity retrieval is investigated in the environment of a metric tree index called the M-tree. Three different approximation techniques are proposed, which show how to forsake query precision for improved performance. Measures are defined that can quantify the improvements in performance efficiency and the quality of approximations. The proposed approximation techniques are then tested on various synthet ...

Keywords: Access structures, Approximation algorithms, Distance only data, Performance evaluation, Similarity search

14 Database session 1: querying high-dimensional data: Approximate searches: k-neighbors + precision

Sid-Ahmed Berrani, Laurent Amsaleg, Patrick Gros

November 2003 **Proceedings of the twelfth international conference on Information and knowledge management**

Full text available: pdf(154.57 KB) Additional Information: full citation, abstract, references, citings, index terms

It is known that all multi-dimensional index structures fail to accelerate content-based similarity searches when the feature vectors describing images are high-dimensional. It is possible to circumvent this problem by relying on approximate search-schemes trading-off result quality for reduced query execution time. Most approximate schemes, however, provide none or only complex control on the precision of the searches, especially when retrieving the *k* nearest neighbors (NNs) of query poi ...

Keyw rds: approximate nearest-neighbor searches, multimedia databases, similarity

searches

15 IR-4 (information retrieval): machine learning in information retrieval: Learning similarity measures in non-orthogonal space

Ning Liu, Benyu Zhang, Jun Yan, Qiang Yang, Shuicheng Yan, Zheng Chen, Fengshan Bai, Wei-Ying Ma

November 2004 **Proceedings of the Thirteenth ACM conference on Information and knowledge management**

Full text available: pdf(204.38 KB) Additional Information: full citation, abstract, references, index terms

Many machine learning and data mining algorithms crucially rely on the similarity metrics. The Cosine similarity, which calculates the inner product of two normalized feature vectors, is one of the most commonly used similarity measures. However, in many practical tasks such as text categorization and document clustering, the Cosine similarity is calculated under the assumption that the input space is an orthogonal space which usually could not be satisfied due to synonymy and ...

Keywords: latent semantic indexing (LSI), non-orthogonal space (NOS), similarity measures (SM), vector space model (VSM)

16 Location-based services and mobile computing: algorithms: A road network embedding technique for k-nearest neighbor search in moving object databases

Cyrus Shahabi, Mohammad R. Kolahdouzan, Mehdi Sharifzadeh

November 2002 **Proceedings of the 10th ACM international symposium on Advances in geographic information systems**

Full text available: pdf(244.13 KB) Additional Information: full citation, abstract, references, citings, index terms

A very important class of queries in GIS applications is the class of K-Nearest Neighbor queries. Most of the current studies on the K-Nearest Neighbor queries utilize spatial index structures and hence are based on the Euclidean distances between the points. In real-world road networks, however, the shortest distance between two points depends on the actual path connecting the points and cannot be computed accurately using one of the *Minkowski* metrics. Thus, the Euclidean distance may no ...

Keywords: chessboard metric, k nearest neighbors, moving objects, road networks, space embedding

17 A cell-based index structure for similarity search in high-dimensional feature spaces

Kwang-Taek Song, Hwa-Jin Nam, Jae-Woo Chang

March 2001 **Proceedings of the 2001 ACM symposium on Applied computing**

Full text available: pdf(635.73 KB) Additional Information: full citation, index terms

Keywords: high-dimensional index structure, multimedia database, similarity search

18 Clustering and singular value decomposition for approximate indexing in high dimensional spaces

Alexander Thomasian, Vittorio Castelli, Chung-Sheng Li

November 1998 **Pr ceedings f the seventh international conference on Informati n and knowledge management**

Full text available: pdf(1.12 MB) Additional Information: full citation, references, citings, index terms

19 Vector approximation based indexing for non-uniform high dimensional data sets
Hakan Ferhatosmanoglu, Ertem Tuncel, Divyakant Agrawal, Amr El Abbadi
November 2000 **Proceedings of the ninth international conference on Information and knowledge management**
Full text available: pdf(370.05 KB) Additional Information: full citation, references, citings, index terms

20 A cost model for nearest neighbor search in high-dimensional data space
Stefan Berchtold, Christian Böhm, Daniel A. Keim, Hans-Peter Kriegel
May 1997 **Proceedings of the sixteenth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems**
Full text available: pdf(1.21 MB) Additional Information: full citation, references, citings, index terms

Keywords: cost model, high-dimensinal data space, multidiimensional searching, multidimensional index structures, nearest neighbor search

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1 Query result processing: Adaptive web search based on user profile constructed without any effort from users

Kazunari Sugiyama, Kenji Hatano, Masatoshi Yoshikawa

May 2004 **Proceedings of the 13th international conference on World Wide Web**

Full text available: pdf(311.96 KB) Additional Information: full citation, abstract, references, index terms

Web search engines help users find useful information on the World Wide Web (WWW). However, when the same query is submitted by different users, typical search engines return the same result regardless of who submitted the query. Generally, each user has different information needs for his/her query. Therefore, the search result should be adapted to users with different information needs. In this paper, we first propose several approaches to adapting search results according to each user's need ...

Keywords: WWW, information retrieval, user modeling

2 Interactive Internet search through automatic clustering (poster abstract): an empirical study

Dmitri Roussinov, Kristine Tolle, Marshall Ramsey, Hsinchun Chen

August 1999 **Proceedings of the 22nd annual international ACM SIGIR conference on Research and development in information retrieval**

Full text available: pdf(278.41 KB) Additional Information: full citation, references, citings, index terms

Keywords: Internet search engines, information retrieval, intelligent searching, interactive data exploration, self-organizing maps

3 Adaptive Hypermedia: The hypercontext framework for adaptive Hypertext

Christopher D Staff

June 2002 **Proceedings of the thirteenth ACM conference on Hypertext and hypermedia**

Full text available: pdf(333.71 KB) Additional Information: full citation, abstract, references, citings, index terms, review

We present HyperContext, a framework for adaptive and adaptable hypertext. Our fundamental premise is that when people encounter the same document, each may interpret

the information it contains differently. Usually, the interpretations are not available to future users of the same information. HyperContext permits users to make these interpretations explicit, and provides support to structure hyperspace around interpretations of documents, rather than around the documents themselves. When a use ...

Keywords: adaptive hypertext, context, user modelling

4 Adaptive testing

Dennis W. Cooper

October 1976 **Proceedings of the 2nd international conference on Software engineering**

Full text available: pdf(427.36 KB) Additional Information: full citation, abstract, references, citings, index terms

The primary vehicle for demonstrating the performance of Ballistic Missile Defense (BMD) software is testing in a simulated environment. The complexity of BMD software logic and the large volumes of input data preclude exhaustive testing. The problem is compounded by limitations on testing time, complicated test procedures, and lack of systematic procedures for performance analysis. This paper describes an approach towards providing an effective means for identifying the boundary of perform ...

Keywords: Constrained optimization, Heuristic search, Heuristics, Modeling, Simulation, Software performance analysis

5 The use of adaptive mechanisms for selection of search strategies in document retrival systems

W. Bruce Croft, Roger H. Thompson

July 1984 **Proceedings of the 7th annual international ACM SIGIR conference on Research and development in information retrieval**

Full text available: pdf(832.66 KB) Additional Information: full citation, abstract, references

A document retrieval system can incorporate many types of flexibility. One example of this is the ability to choose a search strategy that is appropriate for a particular user and query. This paper investigates the use of adaptive mechanisms to control the selection of search strategies. The experimental results indicate that, although an adaptive mechanism is capable of learning the appropriate response in simple situations, there are serious problems with using them to make complex decisions i ...

6 Adaptive heuristics for binary search trees and constant linkage cost

Tony W. Lai, Derick Wood

March 1991 **Proceedings of the second annual ACM-SIAM symposium on Discrete algorithms**

Full text available: pdf(533.71 KB) Additional Information: full citation, references, citings, index terms

7 Image Retrieval: Adaptive nearest neighbor search for relevance feedback in large image databases

P. Wu, B. S. Manjunath

October 2001 **Proceedings of the ninth ACM international conference on Multimedia**

Full text available: pdf(1.38 MB) Additional Information: full citation, abstract, references, citings, index terms

Relevance feedback is often used in refining similarity retrievals in image and video databases. Typically this involves modification to the similarity metrics based on the user

feedback and recomputing a set of nearest neighbors using the modified similarity values. Such nearest neighbor computations are expensive given that typical image features, such as color and texture, are represented in high dimensional spaces. Search complexity is a ciritcal issue while dealing with large databases and ...

Keywords: nearest neighbor search, relevance feedback, similarity retrieval

8 Adaptive feedback compensation for distributed load-based routing systems in datagram packet-switched communications networks

Arthur S. Olsen

July 1997 **ACM SIGCOMM Computer Communication Review**, Volume 27 Issue 3

Full text available: pdf(2.60 MB) Additional Information: full citation, abstract, index terms

Routing systems for datagram packet-switched networks' iteratively applying Shortest Path First (SPF) algorithms on load-based link cost metrics exhibit poor stabilization and convergence properties at moderate traffic loads without the addition of experimentally determined Bertsekas Additive Bias Factors to aid in damping undesirable oscillations. Routing systems which iteratively apply SPF Algorithms on load-varying link costs implicitly assume routing assignments can be independently modified ...

9 Industrial/government track: An adaptive nearest neighbor search for a parts acquisition ePortal

Rafael Alonso, Jeffrey A. Bloom, Hua Li, Chumki Basu

August 2003 **Proceedings of the ninth ACM SIGKDD international conference on Knowledge discovery and data mining**

Full text available: pdf(98.60 KB) Additional Information: full citation, abstract, references, index terms

One of the major hurdles in maintaining long-lived electronic systems is that electronic parts become obsolete, no longer available from the original suppliers. When this occurs, an engineer is tasked with resolving the problem by finding a replacement that is "as similar as possible" to the original part. The current approach involves a laborious manual search through several electronic portals and data books. The search is difficult because potential replacements may differ from the original a ...

Keywords: *k*-nearest neighbor classification, adaptive search, query by example, user profiling

10 Visualization: Periscope: a system for adaptive 3D visualization of search results

Wojciech Wiza, Krzysztof Walczak, Wojciech Cellary

April 2004 **Proceedings of the ninth international conference on 3D Web technology**

Full text available: pdf(1.37 MB) Additional Information: full citation, abstract, references, index terms

A system for efficient 3D visualization of Web search results is presented. The system, called Periscope1, uses a novel approach for adaptive and customizable visualization of complex data. The whole process is divided into a number of interactive steps. At each step, the system can automatically choose the best method of presenting search results. The user can also select a specific presentation method to focus on certain properties of the result obtained. After analyzing the current search res ...

Keywords: adaptive interfaces, human-computer interfaces, virtual reality

11 The design of an adaptive agent driven search system for empowering disenfranchised users

Mousumi Chatterjee
January 2003 **ACM SIGCAPH C mputers and the Physically Handicapped**, Issue 75

Full text available: pdf(79.35 KB) Additional Information: full citation, abstract, references

This research is about designing and testing a usable, adaptive search system for disenfranchised users. It involves developing the adaptive agent model and architecture for the tool as well as researching its effectiveness for the users. The potential users for this system are not only naïve about computer driven technology but are also inhibited to try one, which is a consequence of digital divide. They have not experienced a technology-driven environment where computer has become just an ...

Keywords: adaptive agents, disenfranchised, interface design, system design

12 Sample complexity of model-based search
Christopher D. Rosin
July 1998 **Proceedings of the eleventh annual conference on Computational learning theory**

Full text available: pdf(1.28 MB) Additional Information: full citation, references, index terms

13 Personalization of search engine services for effective retrieval and knowledge management
Weiguo Fan, Michael D. Gordon, Praveen Pathak
December 2000 **Proceedings of the twenty first international conference on Information systems**

Full text available: pdf(174.07 KB) Additional Information: full citation, references, citings, index terms

14 On the performance of pure adaptive search
Bruce W. Schmeiser, Jin Wang
December 1995 **Proceedings of the 27th conference on Winter simulation**

Full text available: pdf(259.51 KB) Additional Information: full citation, references, index terms

15 Link-based ranking 2: Adaptive ranking of web pages
Ah Chung Tsoi, Gianni Morini, Franco Scarselli, Markus Hagenbuchner, Marco Maggini
May 2003 **Proceedings of the twelfth international conference on World Wide Web**

Full text available: pdf(1.48 MB) Additional Information: full citation, abstract, references, index terms

In this paper, we consider the possibility of altering the PageRank of web pages, from an administrator's point of view, through the modification of the PageRank equation. It is shown that this problem can be solved using the traditional quadratic programming techniques. In addition, it is shown that the number of parameters can be reduced by clustering web pages together through simple clustering techniques. This problem can be formulated and solved using quadratic programming techniques. It is ...

Keywords: PageRank, adaptive PageRank determinations, learning PageRank, quadratic programming applications, search engine

16 Searching in metric spaces with user-defined and approximate distances
Paolo Ciaccia, Marco Patella

December 2002 **ACM Transacti ns n Database Systems (TODS)**, Volume 27 Issue 4

Full text available: pdf(555.89 KB) Additional Information: full citation, abstract, references, citings, index terms

Novel database applications, such as multimedia, data mining, e-commerce, and many others, make intensive use of similarity queries in order to retrieve the objects that better fit a user request. Since the effectiveness of such queries improves when the user is allowed to personalize the similarity criterion according to which database objects are evaluated and ranked, the development of access methods able to efficiently support user-defined similarity queries becomes a basic requirement. In t ...

Keywords: Distance metrics, user-defined queries

17 Increasing robustness in global adaptive quadrature through interval selection heuristics

Henry D. Shapiro

May 1984 **ACM Transactions on Mathematical Software (TOMS)**, Volume 10 Issue 2

Full text available: pdf(1.14 MB) Additional Information: full citation, references, index terms, review

18 An adaptive tree pruning system: A language for programming heuristic tree searches

Edward W. Kozdrowicki

January 1968 **Proceedings of the 1968 23rd ACM national conference**

Full text available: pdf(923.68 KB) Additional Information: full citation, abstract, references, citings, index terms

The tree pruning system (TPS) consists of a set of commands designed for programming heuristic tree searches. This system was assembled as a pre-FORTRAN compiler similar in principle to that of FORMAC. TPS and FORTRAN IV statements are used together for writing programs. In the present implementation, each TPS command must be preceded by an asterisk (*) in the first column to distinguish it from a regular FORTRAN statement. TPS has the two-fold purpose of being a language for manipulating t ...

19 Locally adaptive dimensionality reduction for indexing large time series databases

Kaushik Chakrabarti, Eamonn Keogh, Sharad Mehrotra, Michael Pazzani

June 2002 **ACM Transactions on Database Systems (TODS)**, Volume 27 Issue 2

Full text available: pdf(1.48 MB) Additional Information: full citation, abstract, references, index terms

Similarity search in large time series databases has attracted much research interest recently. It is a difficult problem because of the typically high dimensionality of the data. The most promising solutions involve performing dimensionality reduction on the data, then indexing the reduced data with a multidimensional index structure. Many dimensionality reduction techniques have been proposed, including Singular Value Decomposition (SVD), the Discrete Fourier transform (DFT), and the Discrete ...

Keywords: Dimensionality reduction, indexing, time-series similarity retrieval

20 Multiple sequence alignment using tabu search

Tariq Riaz, Yi Wang, Kuo-Bin Li

January 2004 **Proceedings of the sec nd c nference on Asia-Pacific bioinformatics - V lume 29**

Full text available: pdf(215.63 KB) Additional Information: full citation, abstract, references

Tabu search is a meta-heuristic approach that is found to be useful in solving combinatorial optimization problems. We implement the adaptive memory features of tabu search to align multiple sequences. Adaptive memory helps the search process to avoid local optima and explores the solution space economically and effectively without getting trapped into cycles. The algorithm is further enhanced by introducing extended tabu search features such as intensification and diversification. It intensifie ...

Keywords: combinatorial optimizations, multiple sequence alignment, tabu search

Results 1 - 20 of 200 Result page: **1** 2 3 4 5 6 7 8 9 10 next

Terms used **K nearest neighbor** and **feature vector space** Found **68,278** of **147,060**

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Best 200 shown Relevance scale

1 Optimal multi-step k-nearest neighbor search
Thomas Seidl, Hans-Peter Kriegel
June 1998 **ACM SIGMOD Record , Proceedings of the 1998 ACM SIGMOD international conference on Management of data**, Volume 27 Issue 2
Full text available: pdf(1.54 MB) Additional Information: full citation, abstract, references, citings, index terms

For an increasing number of modern database applications, efficient support of similarity search becomes an important task. Along with the complexity of the objects such as images, molecules and mechanical parts, also the complexity of the similarity models increases more and more. Whereas algorithms that are directly based on indexes work well for simple medium-dimensional similarity distance functions, they do not meet the efficiency requirements of complex high-dimensional and adaptable ...

2 Image Retrieval: Adaptive nearest neighbor search for relevance feedback in large image databases
P. Wu, B. S. Manjunath
October 2001 **Proceedings of the ninth ACM international conference on Multimedia**
Full text available: pdf(1.38 MB) Additional Information: full citation, abstract, references, citings, index terms

Relevance feedback is often used in refining similarity retrievals in image and video databases. Typically this involves modification to the similarity metrics based on the user feedback and recomputing a set of nearest neighbors using the modified similarity values. Such nearest neighbor computations are expensive given that typical image features, such as color and texture, are represented in high dimensional spaces. Search complexity is a ciritcal issue while dealing with large databases and ...

Keywords: nearest neighbor search, relevance feedback, similarity retrieval

3 Dynamic vp-tree indexing for *n*-nearest neighbor search given pair-wise distances
Ada Wai-chee Fu, Polly Mei-shuen Chan, Yin-Ling Cheung, Yiu Sang Moon
July 2000 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 9 Issue 2
Full text available: pdf(232.09 KB) Additional Information: full citation, abstract, index terms

For some multimedia applications, it has been found that domain objects cannot be represented as feature vectors in a multidimensional space. Instead, pair-wise distances

between data objects are the only input. To support content-based retrieval, one approach maps each object to a *k*-dimensional (*k*-d) point and tries to preserve the distances among the points. Then, existing spatial access index methods such as the R-trees and KD-trees can support fast searching on the resulting
***Keywords**: Content-based retrieval, Indexing, Nearest neighbor search, Pair-wise distances, Updating*

4 Searching in high-dimensional spaces: Index structures for improving the performance of multimedia databases
Christian Böhm, Stefan Berchtold, Daniel A. Keim
September 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 3

Full text available: pdf(1.39 MB) Additional Information: full citation, abstract, references, citings, index terms

During the last decade, multimedia databases have become increasingly important in many application areas such as medicine, CAD, geography, and molecular biology. An important research issue in the field of multimedia databases is the content-based retrieval of similar multimedia objects such as images, text, and videos. However, in contrast to searching data in a relational database, a content-based retrieval requires the search of similar objects as a basic functionality of the database system ...

Keywords: Index structures, indexing high-dimensional data, multimedia databases, similarity search

5 Web page classification based on k-nearest neighbor approach
Oh-Woog Kwon, Jong-Hyeok Lee
November 2000 **Proceedings of the fifth international workshop on on Information retrieval with Asian languages**

Full text available: pdf(653.68 KB) Additional Information: full citation, abstract, references

Automatic categorization is the only viable method to deal with the scaling problem of the World Wide Web. In this paper, we propose a Web page classifier based on an adaptation of k-Nearest Neighbor (k-NN) approach. To improve the performance of k-NN approach, we supplement k-NN approach with a feature selection method and a term-weighting scheme using markup tags, and reform document-document similarity measure used in vector space model. In our experiments on a Korean commercial Web direct ...

Keywords: Web page classification, feature selection, k-nearest neighbor approach, similarity measure, term weighting scheme, text categorization

6 A cost model for query processing in high dimensional data spaces
Christian Böhm
June 2000 **ACM Transactions on Database Systems (TODS)**, Volume 25 Issue 2

Full text available: pdf(362.22 KB) Additional Information: full citation, abstract, references, citings, index terms, review

During the last decade, multimedia databases have become increasingly important in many application areas such as medicine, CAD, geography, and molecular biology. An important research topic in multimedia databases is similarity search in large data sets. Most current approaches that address similarity search use the feature approach, which transforms important properties of the stored objects into points of a high-dimensional space (feature vectors). Thus, similarity search is transformed ...

Keywords: cost model, multidimensional index

7 Index-driven similarity search in metric spaces
Gisli R. Hjaltason, Hanan Samet
December 2003 **ACM Transacti ns n Database Systems (TODS)**, Volume 28 Issue 4
Full text available: pdf(650.64 KB) Additional Information: full citation, abstract, references, index terms

Similarity search is a very important operation in multimedia databases and other database applications involving complex objects, and involves finding objects in a data set *S* similar to a query object *q*, based on some similarity measure. In this article, we focus on methods for similarity search that make the general assumption that similarity is represented with a distance metric *d*. Existing methods for handling similarity search in this setting typically fall into one of ...

Keywords: Hiearchical metric data structures, distance-based indexing, nearest neighbor queries, range queries, ranking, similarity searching

8 A cost model for nearest neighbor search in high-dimensional data space
Stefan Berchtold, Christian Böhm, Daniel A. Keim, Hans-Peter Kriegel
May 1997 **Proceedings of the sixteenth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems**
Full text available: pdf(1.21 MB) Additional Information: full citation, references, citings, index terms

Keywords: cost model, high-dimensinal data space, multidiimensional searching, multidimensional index structures, nearest neighbor search

9 Research sessions: query processing II: Efficient k-NN search on vertically decomposed data
Arjen P. de Vries, Nikos Mamoulis, Niels Nes, Martin Kersten
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**
Full text available: pdf(1.26 MB) Additional Information: full citation, abstract, references, index terms

Applications like multimedia retrieval require efficient support for similarity search on large data collections. Yet, nearest neighbor search is a difficult problem in high dimensional spaces, rendering efficient applications hard to realize: index structures degrade rapidly with increasing dimensionality, while sequential search is not an attractive solution for repositories with millions of objects. This paper approaches the problem from a different angle. A solution is sought in an unconvent ...

10 Efficient search for approximate nearest neighbor in high dimensional spaces
Eyal Kushilevitz, Rafail Ostrovsky, Yuval Rabani
May 1998 **Proceedings of the thirtieth annual ACM symposium on Theory of computing**
Full text available: pdf(1.38 MB) Additional Information: full citation, references, citings, index terms

11 Searching in metric spaces
Edgar Chávez, Gonzalo Navarro, Ricardo Baeza-Yates, José Luis Marroquín
September 2001 **ACM C mputing Surveys (CSUR)**, Volume 33 Issue 3
Additional Information:

Full text available: pdf(916.04 KB) full citation, abstract, references, citings, index terms

The problem of searching the elements of a set that are close to a given query element under some similarity criterion has a vast number of applications in many branches of computer science, from pattern recognition to textual and multimedia information retrieval. We are interested in the rather general case where the similarity criterion defines a metric space, instead of the more restricted case of a vector space. Many solutions have been proposed in different areas, in many cases without cros ...

Keywords: Curse of dimensionality, nearest neighbors, similarity searching, vector spaces

12 An optimal algorithm for approximate nearest neighbor searching fixed dimensions 
Sunil Arya, David M. Mount, Nathan S. Netanyahu, Ruth Silverman, Angela Y. Wu
November 1998 **Journal of the ACM (JACM)**, Volume 45 Issue 6

Full text available: pdf(287.94 KB) Additional Information: full citation, abstract, references, citings, index terms

Consider a set of S of n data points in real d-dimensional space, Rd, where distances are measured using any Minkowski metric. In nearest neighbor searching, we preprocess S into a data structure, so that given any query point q ∈ Rd, is the closest point of S to q can be reported quickly. Given any po ...

Keywords: approximation algorithms, box-decomposition trees, closet-point queries, nearest neighbor searching, post-office problem, priority search

13 Bellman strikes again!: the growth rate of sample complexity with dimension for the nearest neighbor classifier 
Santosh S. Venkatesh, Robert R. Snapp, Demetri Psaltis
July 1992 **Proceedings of the fifth annual workshop on Computational learning theory**

Full text available: pdf(726.92 KB) Additional Information: full citation, abstract, references, index terms

The finite sample performance of a nearest neighbor classifier is analyzed for a two-class pattern recognition problem. An exact integral expression is derived for the m-sample risk Rm given that a reference m-sample of labeled points, drawn independently from Euclidean n-space according to a fixed probability distri bution, is available to the classifier. For a family of smooth distributions, it is sho ...

14 Finknn: a fuzzy interval number k-nearest neighbor classifier for prediction of sugar production from populations of samples 
Vassilios Petridis, Vassilis G. Kaburlasos
December 2003 **The Journal of Machine Learning Research**, Volume 4

Full text available: pdf(360.76 KB) Additional Information: full citation, abstract, index terms

This work introduces *FINkNN*, a k-nearest-neighbor classifier operating over the metric lattice of conventional interval-supported convex fuzzy sets. We show that for problems involving populations of measurements, data can be represented by fuzzy interval numbers (FINs) and we present an algorithm for constructing FINs from such populations. We then present a lattice-theoretic metric distance between FINs with arbitrary-shaped membership functions, which forms the basis for *FINkNN*' ...

15 Location-based services and mobile computing: algorithms: A road network embedding technique for k-nearest neighbor search in moving object databases 
Cyrus Shahabi, Mohammad R. Kolahdouzan, Mehdi Sharifzadeh

November 2002 **Proceedings of the 10th ACM international symposium n Advances in geographic inf rmati n systems**

Full text available: pdf(244.13 KB) Additional Information: full citation, abstract, references, citings, index terms

A very important class of queries in GIS applications is the class of K-Nearest Neighbor queries. Most of the current studies on the K-Nearest Neighbor queries utilize spatial index structures and hence are based on the Euclidean distances between the points. In real-world road networks, however, the shortest distance between two points depends on the actual path connecting the points and cannot be computed accurately using one of the *Minkowski* metrics. Thus, the Euclidean distance may no ...

Keywords: chessboard metric, k nearest neighbors, moving objects, road networks, space embedding

16 Indexing very high-dimensional sparse and quasi-sparse vectors for similarity searches

Changzhou Wang, X. Sean Wang

April 2001 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 9 Issue 4

Full text available: pdf(359.20 KB) Additional Information: full citation, abstract, index terms

Similarity queries on complex objects are usually translated into searches among their feature vectors. This paper studies indexing techniques for very high-dimensional (e.g., in hundreds) vectors that are sparse or quasi-sparse, i.e., vectors *each* having only a small number (e.g., ten) of non-zero or significant values. Based on the R-tree, the paper introduces the xS-tree that uses lossy compression of bounding regions to guarantee a reasonable minimum fan-out within the allocated stora ...

Keywords: High-dimensional indexing structure, Lossy compression, Quasi-sparse vector, Similarity search, Sparse vector

17 The SR-tree: an index structure for high-dimensional nearest neighbor queries

Norio Katayama, Shin'ichi Satoh

June 1997 **ACM SIGMOD Record , Proceedings of the 1997 ACM SIGMOD international conference on Management of data**, Volume 26 Issue 2

Full text available: pdf(1.41 MB) Additional Information: full citation, abstract, references, citings, index terms

Recently, similarity queries on feature vectors have been widely used to perform content-based retrieval of images. To apply this technique to large databases, it is required to develop multidimensional index structures supporting nearest neighbor queries efficiently. The SS-tree had been proposed for this purpose and is known to outperform other index structures such as the R*-tree and the K-D-B-tree. One of its most important features is that it employs bounding spheres rather than boundi ...

18 Database session 1: querying high-dimensional data: Approximate searches: k-neighbors + precision

Sid-Ahmed Berrani, Laurent Amsaleg, Patrick Gros

November 2003 **Proceedings of the twelfth international conference on Information and knowledge management**

Full text available: pdf(154.57 KB) Additional Information: full citation, abstract, references, citings, index terms

It is known that all multi-dimensional index structures fail to accelerate content-based similarity searches when the feature vectors describing images are high-dimensional. It is possible to circumvent this problem by relying on approximate search-schemes trading-off

result quality for reduced query execution time. Most approximate schemes, however, provide none or only complex control on the precision of the searches, especially when retrieving the *k* nearest neighbors (NNs) of query poi ...

Keyw rds: approximate nearest-neighbor searches, multimedia databases, similarity searches

19 Region proximity in metric spaces and its use for approximate similarity search

Giuseppe Amato, Fausto Rabitti, Pasquale Savino, Pavel Zezula

April 2003 **ACM Transactions on Information Systems (TOIS)**, Volume 21 Issue 2

Full text available: pdf(1.01 MB) Additional Information: full citation, abstract, references, index terms

Similarity search structures for metric data typically bound object partitions by ball regions. Since regions can overlap, a relevant issue is to estimate the proximity of regions in order to predict the number of objects in the regions' intersection. This paper analyzes the problem using a probabilistic approach and provides a solution that effectively computes the proximity through realistic heuristics that only require small amounts of auxiliary data. An extensive simulation to validate the t ...

Keywords: Approximation algorithms, approximate similarity search, metric data, metric trees, performance evaluation

20 Session 11A: Time-space tradeoffs, multiparty communication complexity, and nearest-neighbor problems

Paul Beame, Erik Vee

May 2002 **Proceedings of the thiry-fourth annual ACM symposium on Theory of computing**

Full text available: pdf(283.96 KB) Additional Information: full citation, abstract, references, citings, index terms

(MATH) We extend recent techniques for time-space tradeoff lower bounds using multiparty communication complexity ideas. Using these arguments, for inputs from large domains we prove larger tradeoff lower bounds than previously known for general branching programs, yielding time lower bounds of the form $T=\Omega(n\log^2 n)$ when space $S=n^{1-\epsilon}$, up from $T=\Omega(n\log n)$ for the best previous results. We also prove the first unrestricted separation of the power of general and oblivio ...

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euclidean distance and **K nearest neighbor** and **feature vector space**

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Results 1 - 20 of 200 Result page: **1** 2 3 4 5 6 7 8 9 10 next

Best 200 shown

Relevance scale

1 Multimedia and visualization (MV): Similarity between Euclidean and cosine angle distance for nearest neighbor queries

Gang Qian, Shamik Sural, Yuelong Gu, Sakti Pramanik

March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**

Full text available: pdf(876.42 KB) Additional Information: full citation, abstract, references

Understanding the relationship among different distance measures is helpful in choosing a proper one for a particular application. In this paper, we compare two commonly used distance measures in vector models, namely, Euclidean distance (EUD) and cosine angle distance (CAD), for nearest neighbor (NN) queries in high dimensional data spaces. Using theoretical analysis and experimental results, we show that the retrieval results based on EUD are similar to those based on CAD when dimension is hig ...

Keywords: Content based image retrieval, Cosine angle distance, Euclidean distance, Inter-feature normalization, vector model

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Ada Wai-chee Fu, Polly Mei-shuen Chan, Yin-Ling Cheung, Yiu Sang Moon

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3 A cost model for query processing in high dimensional data spaces

Christian Böhm

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Additional Information: full citation, abstract, references, citings, index

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Thomas Seidl, Hans-Peter Kriegel

June 1998 **ACM SIGMOD Record , Proceedings of the 1998 ACM SIGMOD international conference on Management of data**, Volume 27 Issue 2

Full text available: pdf(1.54 MB) Additional Information: full citation, abstract, references, citings, index terms

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Gisli R. Hjaltason, Hanan Samet

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Christian Böhm, Stefan Berchtold, Daniel A. Keim

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Keywords: Index structures, indexing high-dimensional data, multimedia databases,

similarity search

7 Location-based services and mobile computing: algorithms: A road network embedding technique for k-nearest neighbor search in moving object databases
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8 Research sessions: query processing II: Efficient k-NN search on vertically decomposed data
Arjen P. de Vries, Nikos Mamoulis, Niels Nes, Martin Kersten
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**
Full text available: pdf(1.26 MB) Additional Information: full citation, abstract, references, index terms

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10 Searching in metric spaces with user-defined and approximate distances
Paolo Ciaccia, Marco Patella
December 2002 **ACM Transactions on Database Systems (TODS)**, Volume 27 Issue 4
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Keywords: Distance metrics, user-defined queries

11 Image Retrieval: Adaptive nearest neighbor search for relevance feedback in large image databases

P. Wu, B. S. Manjunath

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Keywords: nearest neighbor search, relevance feedback, similarity retrieval

12 Special issue on kernel methods: A generalized kernel approach to dissimilarity-based classification

Elzbieta Pekalska, Pavel Paclik, Robert P. W. Duin

March 2002 **The Journal of Machine Learning Research**, Volume 2

Full text available: pdf(500.04 KB) Additional Information: full citation, abstract, citings

Usually, objects to be classified are represented by features. In this paper, we discuss an alternative object representation based on dissimilarity values. If such distances separate the classes well, the nearest neighbor method offers a good solution. However, dissimilarities used in practice are usually far from ideal and the performance of the nearest neighbor rule suffers from its sensitivity to noisy examples. We show that other, more global classification techniques are preferable to the ...

13 Session 11B: Finding nearest neighbors in growth-restricted metrics

David R. Karger, Matthias Ruhl

May 2002 **Proceedings of the thiry-fourth annual ACM symposium on Theory of computing**

Full text available: pdf(172.70 KB) Additional Information: full citation, abstract, references, citings, index terms

Most research on nearest neighbor algorithms in the literature has been focused on the Euclidean case. In many practical search problems however, the underlying metric is non-Euclidean. Nearest neighbor algorithms for general metric spaces are quite weak, which motivates a search for other classes of metric spaces that can be tractably searched.In this paper, we develop an efficient dynamic data structure for nearest neighbor queries in *growth-constrained* metrics. These metrics satisfy th ...

14 Searching in metric spaces

Edgar Chávez, Gonzalo Navarro, Ricardo Baeza-Yates, José Luis Marroquín

September 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 3

Full text available: pdf(916.04 KB) Additional Information: full citation, abstract, references, citings, index terms

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Keywords: Curse of dimensionality, nearest neighbors, similarity searching, vector spaces

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Sunil Arya, David M. Mount, Nathan S. Netanyahu, Ruth Silverman, Angela Y. Wu
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Full text available: pdf(287.94 KB) Additional Information: full citation, abstract, references, citings, index terms

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Keywords: approximation algorithms, box-decomposition trees, closet-point queries, nearest neighbor searching, post-office problem, priority search

17 Distance-based indexing for high-dimensional metric spaces
Tolga Bozkaya, Meral Ozsoyoglu
June 1997 **ACM SIGMOD Record , Proceedings of the 1997 ACM SIGMOD international conference on Management of data**, Volume 26 Issue 2
Full text available: pdf(1.48 MB) Additional Information: full citation, abstract, references, citings, index terms

In many database applications, one of the common queries is to find approximate matches to a given query item from a collection of data items. For example, given an image database, one may want to retrieve all images that are similar to a given query image. Distance based index structures are proposed for applications where the data domain is high dimensional, or the distance function used to compute distances between data objects is non-Euclidean. In this paper, we introduce a distance bas ...

18 Similarity Search: Effective nearest neighbor indexing with the euclidean metric
Sang-Wook Kim, Charu C. Aggarwal, Philip S. Yu
October 2001 **Proceedings of the tenth international conference on Information and knowledge management**
Full text available: pdf(2.18 MB) Additional Information: full citation, abstract, references, index terms

The nearest neighbor search is an important operation widely-used in multimedia databases. In higher dimensions, most of previous methods for nearest neighbor search become inefficient and require to compute nearest neighbor distances to a large fraction of points in

the space. In this paper, we present a new approach for processing nearest neighbor search with the Euclidean metric, which searches over only a small subset of the original space. This approach effectively approximates clusters by ...

Keywords: Euclidean metric, high dimensional indexes, multimedia databases, nearest neighbor queries, similarity search

19 Region proximity in metric spaces and its use for approximate similarity search

Giuseppe Amato, Fausto Rabitti, Pasquale Savino, Pavel Zezula
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20 Indexing large metric spaces for similarity search queries

Tolga Bozkaya, Meral Ozsoyoglu
September 1999 **ACM Transactions on Database Systems (TODS)**, Volume 24 Issue 3

Full text available: pdf(281.78 KB) Additional Information: full citation, abstract, references, citings, index terms, review

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1 Optimal multi-step k-nearest neighbor search

Thomas Seidl, Hans-Peter Kriegel

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June 2000 **ACM Transactions on Database Systems (TODS)**, Volume 25 Issue 2

Full text available: pdf(362.22 KB) Additional Information: full citation, abstract, references, citings, index terms, review

During the last decade, multimedia databases have become increasingly important in many application areas such as medicine, CAD, geography, and molecular biology. An important research topic in multimedia databases is similarity search in large data sets. Most current approaches that address similarity search use the feature approach, which transforms important properties of the stored objects into points of a high-dimensional space (feature vectors). Thus, similarity search is transformed ...

Keywords: cost model, multidimensional index

6 Searching in high-dimensional spaces: Index structures for improving the performance of multimedia databases

Christian Böhm, Stefan Berchtold, Daniel A. Keim

September 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 3

Full text available: pdf(1.39 MB) Additional Information: full citation, abstract, references, citings, index terms

During the last decade, multimedia databases have become increasingly important in many application areas such as medicine, CAD, geography, and molecular biology. An important research issue in the field of multimedia databases is the content-based retrieval of similar multimedia objects such as images, text, and videos. However, in contrast to searching data in a relational database, a content-based retrieval requires the search of similar objects as a basic functionality of the database system ...

Keywords: Index structures, indexing high-dimensional data, multimedia databases,

similarity search

7 Research sessions: query processing II: Efficient k-NN search on vertically decomposed data

Arjen P. de Vries, Nikos Mamoulis, Niels Nes, Martin Kersten

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data**

Full text available: pdf(1.26 MB) Additional Information: full citation, abstract, references, index terms

Applications like multimedia retrieval require efficient support for similarity search on large data collections. Yet, nearest neighbor search is a difficult problem in high dimensional spaces, rendering efficient applications hard to realize: index structures degrade rapidly with increasing dimensionality, while sequential search is not an attractive solution for repositories with millions of objects. This paper approaches the problem from a different angle. A solution is sought in an unconvent ...

8 Database session 1: querying high-dimensional data: Approximate searches: k-neighbors + precision

Sid-Ahmed Berrani, Laurent Amsaleg, Patrick Gros

November 2003 **Proceedings of the twelfth international conference on Information and knowledge management**

Full text available: pdf(154.57 KB) Additional Information: full citation, abstract, references, citings, index terms

It is known that all multi-dimensional index structures fail to accelerate content-based similarity searches when the feature vectors describing images are high-dimensional. It is possible to circumvent this problem by relying on approximate search-schemes trading-off result quality for reduced query execution time. Most approximate schemes, however, provide none or only complex control on the precision of the searches, especially when retrieving the *k* nearest neighbors (NNs) of query poi ...

Keywords: approximate nearest-neighbor searches, multimedia databases, similarity searches

9 Searching in metric spaces

Edgar Chávez, Gonzalo Navarro, Ricardo Baeza-Yates, José Luis Marroquín

September 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 3

Full text available: pdf(916.04 KB) Additional Information: full citation, abstract, references, citings, index terms

The problem of searching the elements of a set that are close to a given query element under some similarity criterion has a vast number of applications in many branches of computer science, from pattern recognition to textual and multimedia information retrieval. We are interested in the rather general case where the similarity criterion defines a metric space, instead of the more restricted case of a vector space. Many solutions have been proposed in different areas, in many cases without cros ...

Keywords: Curse of dimensionality, nearest neighbors, similarity searching, vector spaces

10 Vector approximation based indexing for non-uniform high dimensional data sets

Hakan Ferhatosmanoglu, Ertem Tuncel, Divyakant Agrawal, Amr El Abbadi

November 2000 **Proceedings f the ninth internati nal conference on Informati n and knowledge management**

Full text available: pdf(370.05 KB) Additional Information: full citation, references, citings, index terms

11 Indexing large metric spaces for similarity search queries
Tolga Bozkaya, Meral Ozsoyoglu
September 1999 **ACM Transactions on Database Systems (TODS)**, Volume 24 Issue 3

Full text available: pdf(281.78 KB) Additional Information: full citation, abstract, references, citings, index terms, review

One of the common queries in many database applications is finding approximate matches to a given query item from a collection of data items. For example, given an image database, one may want to retrieve all images that are similar to a given query image. Distance-based index structures are proposed for applications where the distance computations between objects of the data domain are expensive (such as high-dimensional data) and the distance function is metric. In this paper we consider ...

12 Approximate nearest neighbors: towards removing the curse of dimensionality
Piotr Indyk, Rajeev Motwani
May 1998 **Proceedings of the thirtieth annual ACM symposium on Theory of computing**

Full text available: pdf(1.33 MB) Additional Information: full citation, references, citings, index terms

13 Distance-based indexing for high-dimensional metric spaces
Tolga Bozkaya, Meral Ozsoyoglu
June 1997 **ACM SIGMOD Record , Proceedings of the 1997 ACM SIGMOD international conference on Management of data**, Volume 26 Issue 2

Full text available: pdf(1.48 MB) Additional Information: full citation, abstract, references, citings, index terms

In many database applications, one of the common queries is to find approximate matches to a given query item from a collection of data items. For example, given an image database, one may want to retrieve all images that are similar to a given query image. Distance based index structures are proposed for applications where the data domain is high dimensional, or the distance function used to compute distances between data objects is non-Euclidean. In this paper, we introduce a distance bas ...

14 Data clustering: a review
A. K. Jain, M. N. Murty, P. J. Flynn
September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3

Full text available: pdf(636.24 KB) Additional Information: full citation, abstract, references, citings, index terms, review

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into groups (clusters). The clustering problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad appeal and usefulness as one of the steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in assumptions and contexts in different communities has made the transfer of useful generic co ...

Keywords: cluster analysis, clustering applications, exploratory data analysis, incremental clustering, similarity indices, unsupervised learning

15 Supporting subseries nearest neighbor search via approximation

Changzhou Wang, X. Sean Wang
November 2000 **Proceedings f the ninth international c nference n Information and knowledge management**
Full text available: pdf(226.47 KB) Additional Information: full citation, references, citings, index terms

16 Locally adaptive dimensionality reduction for indexing large time series databases
Kaushik Chakrabarti, Eamonn Keogh, Sharad Mehrotra, Michael Pazzani
June 2002 **ACM Transactions on Database Systems (TODS)**, Volume 27 Issue 2
Full text available: pdf(1.48 MB) Additional Information: full citation, abstract, references, index terms

Similarity search in large time series databases has attracted much research interest recently. It is a difficult problem because of the typically high dimensionality of the data. The most promising solutions involve performing dimensionality reduction on the data, then indexing the reduced data with a multidimensional index structure. Many dimensionality reduction techniques have been proposed, including Singular Value Decomposition (SVD), the Discrete Fourier transform (DFT), and the Discrete ...

Keywords: Dimensionality reduction, indexing, time-series similarity retrieval

17 Distance browsing in spatial databases
Gísli R. Hjaltason, Hanan Samet
June 1999 **ACM Transactions on Database Systems (TODS)**, Volume 24 Issue 2
Full text available: pdf(460.61 KB) Additional Information: full citation, abstract, references, citings, index terms

We compare two different techniques for browsing through a collection of spatial objects stored in an R-tree spatial data structure on the basis of their distances from an arbitrary spatial query object. The conventional approach is one that makes use of a k-nearest neighbor algorithm where k is known prior to the invocation of the algorithm. Thus if m < k neighbors are needed, the k-nearest neighbor alg ...

Keywords: R-trees, distance browsing, hiearchical spatial data structures, nearest neighbors, ranking

18 Approximation of protein structure for fast similarity measures
Fabian Schwarzer, Itay Lotan
April 2003 **Proceedings of the seventh annual international conference on Computational molecular biology**
Full text available: pdf(212.43 KB) Additional Information: full citation, abstract, references, index terms

It is shown that structural similarity between proteins can be decided well with much less information than what is used in common similarity measures. The full Cα representation contains redundant information because of the inherent chain topology of proteins and a limit on their compactness due to excluded volume. A wavelet analysis on random chains and proteins justifies approximating subchains by their centers of mass. For not too compact chain-like structures in general, and ...

Keywords: approximation of structure, nearest-neighbor search, protein structure, similarity measures

19
DB-IR-1 (databases and information retrieval): indexing and query processing effiency:

Image similarity search with compact data structures
Qin Lv, Moses Charikar, Kai Li
November 2004 **Proceedings f the Thirteenth ACM c nference n Information and knowledge management**
Full text available: pdf(278.78 KB) Additional Information: full citation, abstract, references, index terms

The recent theoretical advances on compact data structures (also called "sketches") have raised the question of whether they can effectively be applied to content-based image retrieval systems. The main challenge is to derive an algorithm that achieves high-quality similarity searches while using compact metadata. This paper proposes a new similarity search method consisting of three parts. The first is a new region feature representation with weighted $=<inf>1</inf> di ...

Keywords: compact data structures, image similarity, search

20 Three-dimensional object recognition
Paul J. Besl, Ramesh C. Jain
March 1985 **ACM Computing Surveys (CSUR)**, Volume 17 Issue 1
Full text available: pdf(7.76 MB) Additional Information: full citation, abstract, references, citings, index terms, review

A general-purpose computer vision system must be capable of recognizing three-dimensional (3-D) objects. This paper proposes a precise definition of the 3-D object recognition problem, discusses basic concepts associated with this problem, and reviews the relevant literature. Because range images (or depth maps) are often used as sensor input instead of intensity images, techniques for obtaining, processing, and characterizing range data are also surveyed.

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adaptive search Search

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1 **Comparison between several adaptive search vector quantization schemes and JPEG standard for image compression**
Ghafourian, M.A.; Chien-Min Huang;
Communications, IEEE Transactions on , Volume: 43 , Issue: 234 , Feb./March/April 1995
Pages:1308 - 1312

[Abstract] [PDF Full-Text (472 KB)] **IEEE JNL**

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Liang, K.M.; Huang, C.M.; Harris, R.W.;
Image Processing, IEEE Transactions on , Volume: 4 , Issue: 7 , July 1995
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Yamaguchi, K.;
Acoustics, Speech, and Signal Processing, 1993. ICASSP-93., 1993 IEEE International Conference on , Volume: 2 , 27-30 April 1993
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Lung-Chun Chang; Kuo-Liang Chung; Tsung-Cheng Yang;
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Tong, C.S.; Pi, M.;
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Combinations of Genetic Algorithms and Neural Networks, 1992. COGANN-92. International Workshop on , 6 June 1992
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Tsang, P.W.M.; Lee, W.T.;
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Xiang Li; Li, E.Q.; Yen-Kuang Chen;
Acoustics, Speech, and Signal Processing, 2004. Proceedings. (ICASSP '04). II International Conference on , Volume: 3 , 17-21 May 2004
Pages:iii - 369-72 vol.3

[Abstract] [PDF Full-Text (241 KB)] IEEE CNF

10 **A novel adaptive search strategy of intensification and diversificati tabu search**
Guang-yuan Liu; Yi He; Yonghui Fang; Yuhui Qiu;
Neural Networks and Signal Processing, 2003. Proceedings of the 2003 International Conference on , Volume: 1 , 14-17 Dec. 2003
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11 **Distributed caching and adaptive search in multilayer P2P netw rk**
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[Abstract] [PDF Full-Text (432 KB)] **IEEE CNF**

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Acoustics, Speech, and Signal Processing, 2003. Proceedings. (ICASSP '03). 2 IEEE International Conference on , Volume: 3 , 6-10 April 2003
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14 **Motion adaptive search for fast motion estimation**
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[Abstract] [PDF Full-Text (428 KB)] **IEEE CNF**

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k nearest neighbor Search

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1 **A K-NN associated fuzzy evidential reasoning classifier with adaptiv neighbor selection**
Zhu, H.; Basir, O.;
Data Mining, 2003. ICDM 2003. Third IEEE International Conference on , 19-2 Nov. 2003
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4 **k-nearest neighb rs directed n ise injection in multilayer perceptr training**

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5 **A fuzzy K-nearest-neighbor algorithm to blind image deconvoluti n**
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6 **A quick evidential classification algorithm based on k-nearest neighl rule**
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7 **Fast binary image resolution increasing by k-nearest neighbor learn**
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Image Processing, 2000. Proceedings. 2000 International Conference on , Vol
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[Abstract] [PDF Full-Text (332 KB)] IEEE CNF

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8 **An interval type-2 fuzzy K-nearest neighbor**
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Fuzzy Systems, 2003. FUZZ '03. The 12th IEEE International Conference
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[Abstract] [PDF Full-Text (383 KB)] IEEE CNF

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9 **An analysis of a fuzzy dissimilarity measure to perform Escherichia source tracking**
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on , Volume: 2 , 25-28 May 2003
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10 **Improving supp rt vect r machine classifier by c mbining it with k nearest neighb r principle based n the best distance measurement**
Tian Ming; Zhuang Yi; Chen Songcan;
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11 **Improving perf rmance f the k-nearest neighb r classifier by t le rough sets**
Yongguang Bao; Xiaoyong Du; Ishii, N.;
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12 **A hashing strategy for efficient k-nearest neighbors computation**
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13 **A filtering method for k-nearest neighbor query processing in multimedia data retrieval applications**
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14 **Reference set thinning for the k-nearest neighbor decision rule**
Bhattacharya, B.; Kaller, D.;
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15 **k nearest neighbors in search of a metric**
Snapp, R.R.; Venkatesh, S.S.;
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[Abstract] [PDF Full-Text (92 KB)] IEEE CNF

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euclidean distance and k nearest neighbor Search

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1 **The finite-sample risk of the k-nearest-neighbor classifier under the metric**
Snapp, R.R.; Venkatesh, S.S.;
Information Theory and Statistics, 1994. Proceedings., 1994 IEEE-IMS Worksl on , 27-29 Oct. 1994
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2 **Pattern recognition applications for power system disturbance classification**
Gaouda, A.M.; Kanoun, S.H.; Salama, M.M.A.; Chikhani, A.Y.;
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3 **Online classification of lung sounds using DSP**
Alsmadi, S.S.; Kahya, Y.P.;
[Engineering in Medicine and Biology, 2002. 24th Annual Conference and the Annual Fall Meeting of the Biomedical Engineering Society] EMBS/BMES Conference, 2002. Proceedings of the Second Joint , Volume: 2 , 23-26 Oct. 2
Pages:1771 - 1772 vol.2

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Gang Qian; Sural, S.; Pramanik, S.;
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Mingchun Liu; Chunru Wan;
Database Engineering & Applications, 2001 International Symposium on. , 16-
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Huaizhong Kou; Gardarin, G.;
Database and Expert Systems Applications, 2002. Proceedings. 13th Internati
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7 **Memory-based character recognition using a transformation invaria**
metric
Simard, P.Y.; Yann Le Cun; Denker, J.S.;
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Set     Items   Description
S1       2906   (QUERY OR FEATURE OR INPUT)(1W)VECTOR? ?
S2        659   S1(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NE-
                 AR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR
                 COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S3      50441   FILTER???(10N)(ITERAT? OR ADAPTIV? OR LEVEL? ? OR TIER?? OR
                 STAGE? ? OR PHASE? ?)
S4          8   (NEAREST OR CLOSEST)(1W)CANDIDATE? ?
S5       1243   (REGION? ? OR AREA? ? OR CLUSTER? ? OR GROUP? ? OR SET? ?)-
                 (7N)VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENE-
                 SS OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALO-
                 GOUS? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S6        287   (NEAREST OR CLOSEST)(1W)NEIGHBOR???
S7        773   ((ALL OR EVERY OR ENTIRE OR EACH)(5N)VECTOR? ?)(7N)(SIMILA-
                 R? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NEAR???? OR PROXIM?
                 OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR COMPARABLE OR CO-
                 RRELAT? OR ASSOCIAT?)
S8          1   S2 AND S3 AND S4:S7
S9          9   S2 AND FILTER??? AND S4:S7
S10      6866   VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS
                 OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGO-
                 US? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S11        16   S10 AND S3 AND S4:S7
S12        98   S10 AND FILTER??? AND S4:S7
S13        16   S10 AND FILTER??? AND S4:S5 AND S6:S7
S14        34   S8:S9 OR S11 OR S13
S15        12   S14 AND AC=US/PR
S16         7   S15 AND AY=(1970:2000)/PR
S17        21   S14 AND PY=1970:2000
S18        22   S16:S17
```

18/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

06707711 **Image available**
METHOD AND DEVICE FOR GENERATING SUMMARY OF MOVING IMAGE

PUB. NO.: 2000-293543 [JP 2000293543 A]
PUBLISHED: October 20, 2000 (**20001020**)
INVENTOR(s): CRINON REGIS J
APPLICANT(s): SHARP CORP
APPL. NO.: 2000-057784 [JP 200057784]
FILED: March 02, 2000 (20000302)
PRIORITY: 287390 [US 99287390], US (United States of America), April 06, 1999 (19990406)
INTL CLASS: G06F-017/30; G06T-007/20; G06T-007/00; H04N-005/44

ABSTRACT

PROBLEM TO BE SOLVED: To make it possible to analyze and extract the contents of a moving image without storing the whole moving image sequence.

SOLUTION: Frames 82 or little images are featured as feature vectors by a vector converter 86. An accumulator 88 stores a regulated feature vector expressing the sequential frames 82 of a moving image sequence in a **set** , a **vector filter** 90 calculates the distortion of the **set** or an accumulation **distance** in **each** addition of a new **feature vector** to the **set** and ranks respective feature **vectors** in accordance with the distortion of the feature vector set. When a moving image segment can not be approved in the input frames 82, an accumulation **distance** concerned with a **vector** added to the **set** most lately is calculated by the **filter** 90 and compared with a threshold by a comparator 92. When the accumulation **distance** concerned with the **feature vector** added to the **set** most lately has previously defined relation with the threshold, the boundary of the segment is declared. After determining the boundary, a schemer 94 approves the most representative frame in the contents of the moving image sequence by using an output from the **filter** 90.

18/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

06261896
METHOD FOR CALCULATING SIMILARITY BETWEEN IMAGES AND RECORDING MEDIUM STORING THE METHOD

PUB. NO.: 11-203477 [JP 11203477 A]
PUBLISHED: July 30, 1999 (**19990730**)
INVENTOR(s): UCHIYAMA TADASHI
SONEHARA NOBORU
APPLICANT(s): NIPPON TELEGR & TELEPH CORP <NTT>
APPL. NO.: 10-008162 [JP 988162]
FILED: January 20, 1998 (19980120)
INTL CLASS: G06T-007/00; G06K-009/46

ABSTRACT

PROBLEM TO BE SOLVED: To easily remove the influence of rotational transformation, scale transformation or gradation transformation to be exerted upon an input image by using an orthogonal function system obtained by transforming the definition area of a spherical surface harmonics from a spherical surface to a plane by the inverse transformation of three-dimensional projection as plural **filters** .
SOLUTION: An orthogonal function system obtained by transforming the definition area of the spherical surface harmonics as a specified

coordinates on a unit sphere from a spherical surface to a plane by the inverse transformation of three-dimensional projection is used as plural **filters** , and by convolving the pixel values of these **filters** , one pixel of an input image and **nearby** pixel, the **feature vector** of plural dimensions related to the pixels is calculated. Besides, by convolving the pixel values of respective **filters** , the correspondent pixel of a standard image and respective **nearby** pixels, the **feature vector** of plural dimensions related to the pixels is calculated. Then, the sum of the **distance** between both **feature vectors** for **all** the pixels is defined as the **similarity** between the images.

18/5/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

06220109 **Image available**
METHOD, DEVICE, AND SYSTEM FOR INFORMATION **FILTERING**

PUB. NO.: 11-161670 [JP 11161670 A]
PUBLISHED: June 18, 1999 (**19990618)**
INVENTOR(s): MATSUNAGA TSUTOMU
KIDA HIROMI
APPLICANT(s): NTT DATA CORP
APPL. NO.: 09-329933 [JP 97329933]
FILED: December 01, 1997 (19971201)
INTL CLASS: G06F-017/30

ABSTRACT

PROBLEM TO BE SOLVED: To provide the high-precision information **filtering** device which can automatically reflect a user's interest.

SOLUTION: A profile management part 17 generates a user profile from a **correlation** matrix obtained by dimension deletion from a **feature vector set** showing features of an input document. A **filtering** process part 18 calculates the projection of feature vectors by documents and corresponding user profiles and **filters** the document on the basis of the calculated values. A **correlation** matrix is generated again from a **feature vector set** as **filtering** results and the profile management part 17 updates the corresponding user profiles. Further, the corresponding user profiles are put together to generate a common profile and when a user profile is updated, the corresponding common profile is updated.

18/5/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

04802860 **Image available**
TARGET TRACKING DEVICE

PUB. NO.: 07-095460 [JP 7095460 A]
PUBLISHED: April 07, 1995 (**19950407)**
INVENTOR(s): SAKAMOTO TAKAYUKI
KAGEYAMA KOJI
APPLICANT(s): SONY CORP [000218] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-261679 [JP 93261679]
FILED: September 25, 1993 (19930925)
INTL CLASS: [6] H04N-005/232
JAPIO CLASS: 44.6 (COMMUNICATION -- Television); 29.1 (PRECISION INSTRUMENTS -- Photography & Cinematography)
JAPIO KEYWORD:R131 (INFORMATION PROCESSING -- Microcomputers &

Microprocessers)

ABSTRACT

PURPOSE: To surely track a target having a hue that easily varies and also to surely track a target even when two objects of the same color cross to each other by treating the luminance and color difference signals as a single vector without discriminating white, black and other colors from each other.

CONSTITUTION: The color image signal TV1 photographed by a TV camera 10 is decimated after undergoing the band limitation through an LPF of a **filter** /converter block 11. Thus the luminance and the color difference are acquired and independently stored in an image memory 12. When an image is stored in the memory 12, a microcomputer 14 **sets** the feature **vector** of a target object and calculates the differences of angles and **distances** between the **feature vector** and the **vector** consisting of the luminance and color difference signals included in the image of the memory 12. Then the microcomputer 14 calculates a one-dimensional evaluation function as the binary data and decides the position of the target object. Thus it is possible to surely track a white or black target that has an easily variable hue and also to surely track a target even when two objects of the same color cross to each other.

18/5/5 (Item 1 from file: 350)

014643056 **Image available**
WPI Acc No: 2002-463760/200249
XRPX Acc No: N02-365595

Enhancing image resolution by applying filter **corresponding to** nearest neighbor **class to** input **image** vector

Patent Assignee: SONY ELECTRONICS INC (SONY); SONY CORP (SONY)
Inventor: CAREY W K; CARRIG J J; FUJIMORI Y; KONDO T
Number of Countries: 100 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200245060	A2	20020606	WO 2001US44064	A	20011121	200249	B
AU 200236486	A	20020611	AU 200236486	A	20011121	200264	
US 6519368	B1	20030211	US 2000724808	A	20001128	200314	
EP 1346311	A2	20030924	EP 2001986017	A	20011121	200363	
			WO 2001US44064	A	20011121		
DE 10196979	T	20031023	DE 10196979	A	20011121	200373	
			WO 2001US44064	A	20011121		
GB 2389294	A	20031203	WO 2001US44064	A	20011121	200404	
			GB 200313225	A	20030609		
KR 2004016823	A	20040225	KR 2003707014	A	20030526	200439	
CN 1488119	A	20040407	CN 2001822286	A	20011121	200441	
JP 2004523941	W	20040805	WO 2001US44064	A	20011121	200451	
			JP 2002547147	A	20011121		

Priority Applications (No Type Date): US 2000724808 A 20001128
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200245060	A2	E	17	G09G-000/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW				
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
AU 200236486	A			G09G-000/00	Based on patent WO 200245060
US 6519368	B1			G06K-009/40	
EP 1346311	A2	E		G06K-009/40	Based on patent WO 200245060
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
DE 10196979	T			G06T-005/00	Based on patent WO 200245060

GB 2389294 A G06K-009/40 Based on patent WO 200245060
KR 2004016823 A G06T-005/00
CN 1488119 A G06K-009/40
JP 2004523941 W 34 H04N-007/01 Based on patent WO 200245060

Abstract (Basic): WO 200245060 A2
NOVELTY - Method consists in determining a **nearest neighbor** class for the **input** image **vector** from spatial classes and applying a **filter** corresponding to the **nearest neighbor** class to the vector. Normalized mean class vectors correspond to the spatial classification, the vector is normalized and weighted distances are determined to find which vector is the **nearest neighbor** class to the **input vector** .
DETAILED DESCRIPTION - There are INDEPENDENT CLAIMS for:
(1) An image resolution enhancement apparatus
(2) An image resolution enhancement program
USE - Method is for image processing.
DESCRIPTION OF DRAWING(S) - The figure shows a method of resolution enhancement **nearest neighbor** classified **filtering** .
pp; 17 DwgNo 3/5
Title Terms: ENHANCE; IMAGE; RESOLUTION; APPLY; **FILTER** ; CORRESPOND; NEARBY; NEIGHBOURING; CLASS; INPUT; IMAGE; VECTOR
Derwent Class: P85; T01
International Patent Class (Main): G06K-009/40; G06T-005/00; G09G-000/00; H04N-007/01
International Patent Class (Additional): G06T-003/40; G06T-005/20
File Segment: EPI; EngPI

18/5/6 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012239899 **Image available**
WPI Acc No: 1999-046007/ **199904**
XRPX Acc No: N99-033509
Device and technique for non-linear vector filtering **- has three** stage **process comprising marginal sorting, recursive calculations, and** filtering
Patent Assignee: FRANCE TELECOM SA (ETFR); TELEDIFFUSION DE FRANCE SA (TELG); FRANCE TELECOM (ETFR)
Inventor: LUCAT L; SIOHAN P
Number of Countries: 020 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9855938	A1	19981210	WO 98FR1095	A	19980529	199904 B
FR 2764416	A1	19981211	FR 977382	A	19970606	199905

Priority Applications (No Type Date): FR 977382 A 19970606
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9855938	A1	F	28	G06F-017/10	

Designated States (National): CA US
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
FR 2764416 A1 G06T-005/00

Abstract (Basic): WO 9855938 A
The method and device uses a measurement **associated** with said source **vector** , a sum of **distances** of said source **vector** with **each set** of source **vectors** to be considered, weighed by weighting coefficients, w, assigned to each of the source vectors, comprising the following steps: for each dimension, ordering (61) of each vector set on the basis of a scalar sorting on each dimension and assigning a rank value to each dimension component of each vector source.
Also computing (62,63) each measurement taking into account for each dimension the product of each vector source component with the sum of weighting coefficients w **associated** with the rg first **vectors**

according to ordering in **each** dimension; and or the sum of rg first components according to such ordering in each dimension; weighted by corresponding weighting coefficients, w.

USE - **Filtering** of numeric data, especially non-linear vectors, in one or more dimensions, for use in vector median **filtering** .

ADVANTAGE - Number of calculations required is reduced in comparison with current techniques, which permits real time calculation and gives precise calculations, rather than simple approximations.

Dwg.6/7

Title Terms: DEVICE; TECHNIQUE; NON; LINEAR; VECTOR; **FILTER** ; THREE; STAGE ; PROCESS; COMPRISE; MARGIN; SORT; RECURSIVE; CALCULATE; **FILTER**

Derwent Class: T01

International Patent Class (Main): G06F-017/10; G06T-005/00

File Segment: EPI

18/5/7 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

011625274 **Image available**

WPI Acc No: 1998-042402/ **199804**

XRPX Acc No: N98-033886

Determining E-mail message to which E-mail message is response - using textual context and characteristics of messages to provide framework for construction of message threads

Patent Assignee: AT & T CORP (AMTT)

Inventor: KNOWLES K A; LEWIS D D

Number of Countries: 021 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9746962	A1	19971211	WO 97US9161	A	19970530	199804	B
US 5905863	A	19990518	US 9619264	A	19960607	199927	
			US 97866196	A	19970530		

Priority Applications (No Type Date): US 97866196 A 19970530; US 9619264 P 19960607

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9746962	A1	E	106	G06F-017/60	
	Designated States (National): CA JP MX				
	Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE				
US 5905863	A			G06F-017/27	Provisional application US 9619264

Abstract (Basic): WO 9746962 A

The method for determining from a number of messages, a second message that is related to a first message, involves generating a **filtered** first message vector by **filtering** the first message using a message **filter** bank, and generating a set of **filtered** second message vectors by **filtering** each of the messages using a second message **filter** bank.

The method further involves determining, for each of the **set** of **filtered** second message **vectors** , the degree of **match** between the **filtered** first and second message **vectors** , and determining from **each** of the degrees of **match** , which one of the messages is the second message.

USE - Recognising and manipulating threads, i.e. conversations among two or more people, carried out by exchange of messages.

ADVANTAGE - Uses statistical information retrieval in conjunction with textual material obtained by **filtering** of messages, to achieve accurate identification when one message is reply to another.

Dwg.2/3

Title Terms: DETERMINE; MAIL; MESSAGE; MAIL; MESSAGE; RESPOND; TEXT; CONTEXT; CHARACTERISTIC; MESSAGE; FRAMEWORK; CONSTRUCTION; MESSAGE; THREAD

Derwent Class: T01; W01

International Patent Class (Main): G06F-017/27; G06F-017/60

International Patent Class (Additional): G06F-017/20; G06F-017/30;
H04L-012/58
File Segment: EPI

18/5/8 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011058435 **Image available**
WPI Acc No: 1997-036360/ **199704**
XRPX Acc No: N97-030561

Parallel max. likelihood processing method for analogue signal in RLL coded channel, e.g. for reading magnetic disc channel - forming vector scalar products from current and next state, forming value vectors **in analog** matched filters **and comparing with thresholds to produce binary decision outputs which are used to make ML symbol decisions**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)
Inventor: HASSNER M A; TAMURA T; WINOGRAD S; WINOGRADE S
Number of Countries: 016 Number of Patents: 011
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 749123	A2	19961218	EP 96304352	A	19960610	199704	B
JP 9007311	A	19970110	JP 96133378	A	19960528	199712	
US 5638065	A	19970610	US 95489863	A	19950613	199729	
SG 42404	A1	19970815	SG 969788	A	19960513	199739	
KR 97003107	A	19970128	KR 9621268	A	19960613	199806	
CN 1143809	A	19970226	CN 96107855	A	19960611	200062	
KR 230554	B1	19991115	KR 9621268	A	19960613	200111	
EP 749123	B1	20010829	EP 96304352	A	19960610	200150	
DE 69614772	E	20011004	DE 614772	A	19960610	200166	
			EP 96304352	A	19960610		
ES 2160770	T3	20011116	EP 96304352	A	19960610	200201	
JP 3329185	B2	20020930	JP 96133378	A	19960528	200271	

Priority Applications (No Type Date): US 95489863 A 19950613
Cited Patents: No-SR.Pub
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 749123	A2	E	26	G11B-020/14	
Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE					
JP 9007311	A		17	G11B-020/14	
US 5638065	A		24	H03M-007/00	
SG 42404	A1			H03M-007/00	
KR 97003107	A			G11B-020/10	
CN 1143809	A			G11B-020/02	
KR 230554	B1			G11B-020/10	
EP 749123	B1	E		G11B-020/14	
Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE					
DE 69614772	E			G11B-020/14	Based on patent EP 749123
ES 2160770	T3			G11B-020/14	Based on patent EP 749123
JP 3329185	B2		16	G11B-020/14	Previous Publ. patent JP 9007311

Abstract (Basic): EP 749123 A

The processing method computes vectors for a current state of the channel and the next state of the channel using Walsh transform vector coefficients of the analog signal. The current state vectors, the next state vectors and the values of the **vectors** are precomputed in analog **matched filters** , and are used to generate **vector** scalar products.

These are compared against preselected threshold values to generate binary decision outputs used in digital sequential finite state machines to generate maximum-likelihood (ML) symbol decisions. The ML symbol decisions are fed back and used to subtract the intersymbol interference value of the current state vector from the vector of the next state to transform it into an updated current state vector.

ADVANTAGE - Does not require half-bit clock.

Dwg.4/8

Title Terms: PARALLEL; MAXIMUM; PROCESS; METHOD; ANALOGUE; SIGNAL; RLL;

CODE; CHANNEL; READ; MAGNETIC; DISC; CHANNEL; FORMING; VECTOR; SCALE; PRODUCT; CURRENT; STATE; FORMING; VALUE; VECTOR; ANALOGUE; MATCH; **FILTER** ; COMPARE; THRESHOLD; PRODUCE; BINARY; DECIDE; OUTPUT; ML; SYMBOL; DECIDE
Index Terms/Additional Words: RUN; LENGTH; LIMITED
Derwent Class: T03; U21
International Patent Class (Main): G11B-020/02; G11B-020/10; G11B-020/14; H03M-007/00
International Patent Class (Additional): G11B-019/04; G11B-020/18
File Segment: EPI

18/5/9 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010718817 **Image available**
WPI Acc No: 1996-215772/ **199622**
XRPX Acc No: N96-181197
Motion vector detector for video-conferencing - has output circuit which moves output of comparator that differentiates size of output of window searching circuit and block matching **operation circuit** group **, and forms** vector
Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8079764	A	19960322	JP 94213685	A	19940907	199622	B

Priority Applications (No Type Date): JP 94213685 A 19940907
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8079764	A		7	H04N-007/32	

Abstract (Basic): JP 8079764 A
The detector has a camera and CPU (25) which controls the camera. A **filter** distinguishes the motion **level** of the photograph object of an input image.
The window searching circuit and block matching operation circuit (22) perform a block matching operation responding to the motion of photograph object. A comparator (23) differentiates the size of output of the window searching circuit and block matching operation circuit group and an output circuit (24) moves the output of comparator and forms a vector.
ADVANTAGE - Reduces number of trial times of operator. Efficiently performs good operation and shortens operation time.
Dwg.1/5
Title Terms: MOTION; VECTOR; DETECT; VIDEO; OUTPUT; CIRCUIT; MOVE; OUTPUT; COMPARATOR; DIFFERENTIAL; SIZE; OUTPUT; WINDOW; SEARCH; CIRCUIT; BLOCK; MATCH; OPERATE; CIRCUIT; GROUP; FORM; VECTOR
Derwent Class: W02; W04
International Patent Class (Main): H04N-007/32
International Patent Class (Additional): H04N-007/15
File Segment: EPI

18/5/10 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010315241 **Image available**
WPI Acc No: 1995-216499/ **199529**
XRPX Acc No: N95-169619
Speech signal transmission procedure - keeping filter switched on even in pauses to control filter directly by exciting vectors from code book with processed voice signal
Patent Assignee: PHILIPS ELECTRONICS NV (PHIG); PHILIPS PATENTVERWALTUNG GMBH (PHIG); KONINK PHILIPS ELECTRONICS NV (PHIG); PHILIPS CORP INTELLECTUAL PROPERTY GMBH (PHIG); US PHILIPS CORP (PHIG)

Inventor: HELLWIG K; LORENZ D
Number of Countries: 012 Number of Patents: 014
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4342425	A1	19950614	DE 4342425	A	19931213	199529	B
EP 658878	A2	19950621	EP 94203568	A	19941208	199529	
AU 9480418	A	19950622	AU 9480418	A	19941213	199536	
JP 7307707	A	19951121	JP 94309340	A	19941213	199604	
EP 658878	A3	19960417	EP 94203568	A	19941208	199626	
TW 278283	A	19960611	TW 95100655	A	19950125	199639	
US 5657421	A	19970812	US 94353044	A	19941209	199738	
CN 1117223	A	19960221	CN 94113096	A	19941213	199742	
AU 681458	B	19970828	AU 9480418	A	19941213	199743	
SG 49260	A1	19980518	SG 968497	A	19941208	199835	
EP 658878	B1	20000426	EP 94203568	A	19941208	200025	
DE 59409307	G	20000531	DE 509307	A	19941208	200033	
			EP 94203568	A	19941208		
RU 2142671	C1	19991210	RU 9443815	A	19941209	200043	
KR 356971	B	20030124	KR 9433839	A	19941213	200339	

Priority Applications (No Type Date): DE 4342425 A 19931213
Cited Patents: 1.Jnl.Ref; GB 2113054; US 4376874; WO 9313516
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4342425	A1		5	G10L-003/00	
EP 658878	A2	G	6	G10L-009/14	
Designated States (Regional): DE FR GB IT					
AU 9480418	A			H04B-001/04	
JP 7307707	A		5	H04B-014/04	
EP 658878	A3			G10L-003/00	
TW 278283	A			H04B-007/06	
US 5657421	A		5	G10L-009/14	
CN 1117223	A			H04B-001/00	
AU 681458	B			H04B-001/04	Previous Publ. patent AU 9480418
SG 49260	A1			G10L-009/14	
EP 658878	B1	G		G10L-019/00	
Designated States (Regional): DE FR GB IT					
DE 59409307	G			G10L-019/00	Based on patent EP 658878
RU 2142671	C1			H04B-001/02	
KR 356971	B			H04L-013/16	Previous Publ. patent KR 95022502

Abstract (Basic): DE 4342425 A

A voice encoder is provided at the transmitter. The encoder has a memory arrangement (12) with several memory addresses **each** for a stimulation **vector** and an **associated** control circuit (14) for successively addressing and reading all the addresses. A first **filter** arrangement (16) **filters** exciting vectors. A differencing **stage** (18) forms a difference signal from the difference between the **filtered** vectors and a **filtered** voice signal. A processing **stage** (20) forms the energy of the difference signal.

The voice signal is fed to the differencing **stage** (18) via a second **filter** arrangement (22,24) which has two parts. A detector (26) detects pauses in the speech and, when a pause is detected, at least part of the encoder is switched off. In each detected pause, only the successive addressing in the control circuit (14) and the function of the differencing stage (18) and the processor stage (20) are switched off and the same signal is fed to the first filter arrangement (16) as to the second part of the second filter arrangement (22,24).

ADVANTAGE - Ensures scarcely perceptible transition between comfort noise and voice signal, saves energy and provides optimal voice signal transmission parameters.

Dwg.1/2

Title Terms: SPEECH; SIGNAL; TRANSMISSION; PROCEDURE; KEEP; FILTER; SWITCH; EVEN; PAUSE; CONTROL; FILTER; EXCITATION; VECTOR; CODE; BOOK; PROCESS; VOICE; SIGNAL
Derwent Class: P86; W01; W04
International Patent Class (Main): G10L-003/00; G10L-009/14; G10L-019/00; H04B-001/00; H04B-001/02; H04B-001/04; H04B-007/06; H04B-014/04;

H04L-013/16
International Patent Class (Additional): H04B-001/38
File Segment: EPI; EngPI

18/5/11 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009771050 **Image available**
WPI Acc No: 1994-050901/ **199407**
XRPX Acc No: N94-040114
Motion compensation method for synthetic aperture radar - selecting several range cells within field of view, dividing radar samples for each cell into two interleaved sets, correlating **each** set **, comparing phase angles of complex** vectors **, comparing** all **phase differences to process cells**
Patent Assignee: GEC-MARCONI LTD (MAON); GEC MARCONI AVIONICS HOLDINGS LTD (MAON); GENERAL ELECTRIC CO PLC (ENGE)
Inventor: ELLIS A B E
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2270225	A	19940302	GB 9218053	A	19920825	199407	B
GB 2270225	B	19960228	GB 9218053	A	19920825	199612	

Priority Applications (No Type Date): GB 9218053 A 19920825
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2270225	A		18	G01S-013/90	
GB 2270225	B		1	G01S-013/90	

Abstract (Basic): GB 2270225 A
The method of motion compensation in a synthetic aperture radar involves i) selecting a plurality of range cells within the field of view of the synthetic aperture radar, and ii) dividing the radar samples for each of these range cells into two interleaved **sets** . Step iii) **correlates** each of the **sets** in a **matched filter** to produce a complex **vector** , then iv) compares the **phase** angles of the complex **vectors** produced by the two **sets** corresponding to each range cell and recording the difference in phase.
Step v) compares all of the differences in phase and calculating the average difference, and (vi) uses the average difference to calculate a new matched **filter** . Step vii) uses the new matched **filter** to process all of the range cell. Step (v) may be replaced by: v) comparing all of the difference in phase and calculating the common difference and if this common difference is below a predetermined threshold going directly to step vii).
ADVANTAGE - Does not require excessive processing or cost, as with prior art.
Dwg.2/2
Title Terms: MOTION; COMPENSATE; METHOD; SYNTHETIC; APERTURE; RADAR; SELECT ; RANGE; CELL; FIELD; VIEW; DIVIDE; RADAR; SAMPLE; CELL; TWO; INTERLEAVED ; SET; CORRELATE; SET; COMPARE; PHASE; ANGLE; COMPLEX; VECTOR; COMPARE; PHASE; DIFFER; PROCESS; CELL
Index Terms/Additional Words: SAR
Derwent Class: W06
International Patent Class (Main): G01S-013/90
File Segment: EPI

18/5/12 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009730703 **Image available**
WPI Acc No: 1994-010553/ **199402**
XRPX Acc No: N94-008463

Echo suppression with adaptive filter **using least squares method - locating principal echo, at interior of vector filter, of signal received at base of held relative values, readjusting filter w.r.t. held values, estimating filter error, and updating filter**

Patent Assignee: MOTOROLA INC (MOTI)
Inventor: ASHLEY J P; NGUYEN Q
Number of Countries: 005 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2692089	A1	19931210	FR 934308	A	19930413	199402	B
CA 2093744	A	19931014	CA 2093744	A	19930408	199402	
SE 9301184	A	19931014	SE 931184	A	19930408	199402	
US 5295136	A	19940315	US 92867555	A	19920413	199411	
JP 6104797	A	19940415	JP 93108771	A	19930413	199420	
CA 2093744	C	19970701	CA 2093744	A	19930408	199738	

Priority Applications (No Type Date): US 92867555 A 19920413
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2692089	A1		22		
SE 9301184	A		1		
US 5295136	A		13		
JP 6104797	A		14		

Abstract (Basic): FR 2692089 A

The signal vector, x(n), is multiplied vectorially (24, 25) by the compressed filter signal, F(n). This principal vector product is added (28, 29) to the return signal contg. the echo to give the principal error. A secondary **vector** product is **similarly** obtained from **all** the secondary echoes.

A second error term is obtained by subtracting the secondary vector product from the principal error term. The output of the suppressor is whichever is the smaller of the principal error and the secondary error. The **filter** vector is updated by an **adaptive** factor based on the upper and lower limits of the compressed vector by adding an adaptive vector.

USE/ADVANTAGE - Telephone system, esp. mobile phones. Increased speed of convergence.

Dwg.2/7

Title Terms: ECHO; SUPPRESS; ADAPT; FILTER; SQUARE; METHOD; LOCATE; PRINCIPAL; ECHO; INTERIOR; VECTOR; FILTER; SIGNAL; RECEIVE; BASE; HELD; RELATIVE; VALUE; READJUST; FILTER; HELD; VALUE; ESTIMATE; FILTER; ERROR; UPDATE; FILTER
Index Terms/Additional Words: LSM
Derwent Class: W01; W02
International Patent Class (Main): H04B-003/20; H04B-003/23; H04B-007/26
International Patent Class (Additional): H04B-003/21; H04B-007/015
File Segment: EPI

18/5/13 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

009602929 **Image available**
WPI Acc No: 1993-296477/ **199338**
XRPX Acc No: N93-228532

Multichannel echo canceller for teleconferencing system - has set **of subtractors and** associated adaptive filters **with coefft.** vectors **varied by correction signal to derive echo replica**

Patent Assignee: NEC CORP (NIDE)
Inventor: HIRANO A
Number of Countries: 007 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 561133	A1	19930922	EP 93101526	A	19930201	199338	B
JP 5218906	A	19930827	JP 9246185	A	19920131	199339	
CA 2088558	A	19930801	CA 2088558	A	19930201	199343	

US 5371789	A	19941206	US 9312125	A	19930201	199503
CA 2088558	C	19971223	CA 2088558	A	19930201	199811
EP 561133	B1	19981021	EP 93101526	A	19930201	199846
DE 69321635	E	19981126	DE 621635	A	19930201	199902
			EP 93101526	A	19930201	

Priority Applications (No Type Date): JP 9246185 A 19920131
Cited Patents: 3.Jnl.Ref; JP 1260967
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 561133	A1	E	20	H04M-009/08	
Designated States (Regional): DE FR GB NL					
US 5371789	A		19	H04B-003/23	
EP 561133	B1	E		H04M-009/08	
Designated States (Regional): DE FR GB NL					
DE 69321635	E			H04M-009/08	Based on patent EP 561133
JP 5218906	A			H04B-003/23	
CA 2088558	A			H04M-001/08	
CA 2088558	C			H04B-003/23	

Abstract (Basic): EP 561133 A
The system utilises a number of two-way communication channels, each with a microphone and loudspeaker at both ends. A number of subtractors are connected in the channels to receive the signals from the microphones and provide echo-cancelling signals. An inter-channel time difference estimator receives the signals and estimates the difference between the signal propagation delays.
A control circuit, responsive to the estimate, selects the signal having the largest echo component content and identifies one of a **set** of **vectors** of **filter** coeffts. **Each** subtractor has an **associated adaptive filter** which varies its coeffts. with a correction term proportional to the output signal.
ADVANTAGE - Multi-channel echo canceller can quickly adapt itself to changing acoustic parameters at far end of communication channel.
Dwg.1/9
Title Terms: MULTICHANNEL; ECHO; CANCEL; TELECONFERENCE; SYSTEM; SET; SUBTRACT; ASSOCIATE; ADAPT; **FILTER** ; COEFFICIENT; VECTOR; VARY; CORRECT; SIGNAL; DERIVATIVE; ECHO; REPLICA
Derwent Class: T01; U22; W01; W02
International Patent Class (Main): H04B-003/23; H04M-001/08; H04M-009/08
International Patent Class (Additional): H04M-003/18
File Segment: EPI

18/5/14 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009588289 **Image available**
WPI Acc No: 1993-281835/ **199336**
XRPX Acc No: N93-216559
Improving motion vector estimation in moving picture sequences - initially filtering search region **and** matching **block to improve probability of** vector **identification and definition**
Patent Assignee: BUNDESREPUBLIK DEUT (BUND); DEUT BUNDESPOST TELECOM (DEBP)
Inventor: KNOLL A
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 558922	A2	19930908	EP 93101352	A	19930129	199336	B
DE 4206622	A1	19930909	DE 4206622	A	19920303	199337	
NO 9300545	A	19930906	NO 93545	A	19930216	199344	
EP 558922	A3	19931201	EP 93101352	A	19930129	199513	
EP 558922	B1	19961218	EP 93101352	A	19930129	199704	

Priority Applications (No Type Date): DE 4206622 A 19920303
Cited Patents: No-SR.Pub; 4.Jnl.Ref; EP 446001; GB 2236449; JP 4023594

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 558922	A2	G	9	H04N-005/14	
DE 4206622	A1		9	H04N-007/13	
EP 558922	B1	G	9	H04N-005/14	
Designated States (Regional): FR GB					
NO 9300545	A			H04N-007/13	
EP 558922	A3			H04N-005/14	

Abstract (Basic): EP 558922 A

The identification of motion vector information for use in high definition TV or video telephone systems begins with filtering the search region followed by filtering of the matching block. This replaces the interpolation process of earlier methods and results in improved performance.

The addition steps in the process consist of locating the first position of the matching block in the search region and storing this in memory. The next position value is then provided for comparison to generate a difference that is stored and is used to generate a position value.

USE/ADVANTAGE - Improved evaluation in half pel accuracy based on full search or two to multi-step search process, e.g. log (D) step search, in moving image sequences. Coding of image sequences in picture transmission from HDTV to video telephone, in multi-medium or qualitative high quality norm conversion for moving scenes.

Dwg.3/5

Title Terms: IMPROVE; MOTION; VECTOR; ESTIMATE; MOVE; PICTURE; SEQUENCE; INITIAL; FILTER; SEARCH; REGION; MATCH; BLOCK; IMPROVE; PROBABILITY; VECTOR; IDENTIFY; DEFINE

Index Terms/Additional Words: HDTV; video; telephone

Derwent Class: W01; W02; W04

International Patent Class (Main): H04N-005/14; H04N-007/13

International Patent Class (Additional): H04N-007/32

File Segment: EPI

18/5/15 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

009360896 **Image available**

WPI Acc No: 1993-054374/ **199307**

XRPX Acc No: N93-041490

Syntactic semantic analysis method for speech recognition - has speech input unit receiving and analysing input speech signal outputting speech feature parameter series and extracting speech feature vector **from series to** match **with predetermined words**

Patent Assignee: TOSHIBA KK (TOKE)

Inventor: TAKEBAYASHI Y; TSUBOI H

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 527650	A2	19930217	EP 92307414	A	19920813	199307	B
EP 527650	A3	19930721	EP 92307414	A	19920813	199406	
US 5457768	A	19951010	US 92928417	A	19920812	199546	
EP 527650	B1	19980422	EP 92307414	A	19920813	199820	
DE 69225173	E	19980528	DE 625173	A	19920813	199827	
			EP 92307414	A	19920813		

Priority Applications (No Type Date): JP 92184220 A 19920710; JP 91203012 A 19910813

Cited Patents: No-SR.Pub; DE 4031421; DE 4031638; EP 430615

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 527650	A2	E	39	G10L-005/06	
Designated States (Regional): DE FR GB					
US 5457768	A		37	G10L-009/00	
EP 527650	B1	E	41	G10L-005/06	

Designated States (Regional): DE GB
DE 69225173 E G10L-005/06 Based on patent EP 527650
EP 527650 A3 G10L-005/06

Abstract (Basic): EP 527650 A

The apparatus includes a speech analysing unit (1) for receiving an external speech signal, analysing the speech signal and generating a speech feature parameter series. A dictionary store (21) holds a number of predetermined words. A speech recognition unit converts the speech feature parameter series input into a speech **feature vector** , which is **matched** with reference vectors of predetermined words in the dictionary store. From this a series of a number of word candidates is output to be used as keywords.

A syntactic analysis unit (3) analyses the series of word candidates as the keywords according to syntactic limitations and generates a sentence candidate. The speech analyser includes a converter to charge the speech signal to a digital signal, which is subjected to analysis processing including Fast fourier Transform, **filter** analysts and Linear Predictive Coding.

ADVANTAGE - Meaning given to noise, meaningless words and silent periods which are analysed under same conditions as words. Improved speech interface permitting natural speech.

Dwg.2/24

Title Terms: SYNTACTIC; ANALYSE; METHOD; SPEECH; RECOGNISE; SPEECH; INPUT; UNIT; RECEIVE; ANALYSE; INPUT; SPEECH; SIGNAL; OUTPUT; SPEECH; FEATURE; PARAMETER; SERIES; EXTRACT; SPEECH; FEATURE; VECTOR; SERIES; MATCH; PREDETERMINED; WORD
Derwent Class: P86; W04
International Patent Class (Main): G10L-005/06; G10L-009/00
International Patent Class (Additional): G10L-007/08
File Segment: EPI; EngPI

18/5/16 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009221989 **Image available**
WPI Acc No: 1992-349412/ **199242**
XRPX Acc No: N92-266554

Dynamical system analyser incorporating computer - performs singular value decomposition of time series of signals from non-linear system and loading low noise vectors into FIR filter

Patent Assignee: UK SEC FOR DEFENCE (MINA)
Inventor: BROOMHEAD D S; JOHNSON M; JONES R; BROOMHEAD D
Number of Countries: 017 Number of Patents: 011
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9216897	A1	19921001	WO 92GB374	A	19920303	199242	B
EP 585237	A1	19940309	EP 92906383	A	19920303	199410	
			WO 92GB374	A	19920303		
JP 6508681	W	19940929	JP 92505554	A	19920303	199443	
			WO 92GB374	A	19920303		
US 5453940	A	19950926	WO 92GB374	A	19920330	199544	
			US 93119138	A	19931007		
US 5493516	A	19960220	US 93119138	A	19931007	199613	
			US 95404098	A	19950314		
US 5835682	A	19981110	WO 92GB374	A	19920303	199901	
			US 93119138	A	19931007		
			US 95404098	A	19950314		
			US 95551732	A	19951101		
JP 3040471	B2	20000515	JP 92505554	A	19920303	200028	
			WO 92GB374	A	19920303		
EP 585237	B1	20000906	EP 92906383	A	19920303	200044	
			WO 92GB374	A	19920303		
DE 69231420	E	20001012	DE 631420	A	19920303	200059	
			EP 92906383	A	19920303		
			WO 92GB374	A	19920303		

ES 2149172 T3 20001101 EP 92906383 A 19920303 200062
CA 2104949 C 20030211 CA 2104949 A 19920303 200321
WO 92GB374 A 19920303

Priority Applications (No Type Date): GB 916082 A 19910322
Cited Patents: 03Jnl.Ref; EP 329356
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9216897	A1	E	40	G06F-015/18	
Designated States (National): CA JP US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU MC NL SE					
EP 585237	A1	E	2		Based on patent WO 9216897
Designated States (Regional): DE ES GB IT NL SE					
JP 6508681	W		1	G01H-017/00	Based on patent WO 9216897
US 5453940	A		16	G06F-015/20	Based on patent WO 9216897
US 5493516	A		16	G05B-013/02	Div ex application US 93119138 Div ex patent US 5453470
US 5835682	A			G06F-015/18	Div ex application WO 92GB374 Div ex application US 93119138 Cont of application US 95404098 Div ex patent US 5453940 Cont of patent US 5493516
JP 3040471	B2		18	G01M-019/00	Previous Publ. patent JP 6508681 Based on patent WO 9216897
EP 585237	B1	E		G06F-015/18	Based on patent WO 9216897
Designated States (Regional): DE ES GB IT NL SE					
DE 69231420	E			G06F-015/18	Based on patent EP 585237 Based on patent WO 9216897
ES 2149172	T3			G06F-015/18	Based on patent EP 585237
CA 2104949	C	E		G06F-015/18	Based on patent WO 9216897

Abstract (Basic): WO 9216897 A

The dynamic system analyser includes a generator (34) producing a sequence of sets of phase space coordinates from a time series of signals from a dynamic system. Each coordinate set is projections of a respective Takens' vector on to a set of singular vectors obtained in a singular value decomposition of the time series of signals or another such series.

A heunstic processing device (44) is arranged to carry out a transformation of the sets of phase space coordinates to produce a fit to reference data and to create a mathematical model related to that transform. The transformation comprises a QR decomposition of the sequence and least squares fitting to reference data in order to generate the mathematical model.

ADVANTAGE - Can analyse nonlinear or chaotic systems. Can generate mathematical model.

Dwg.1/7

Title Terms: DYNAMIC; SYSTEM; ANALYSE; INCORPORATE; COMPUTER; PERFORMANCE; SINGULAR; VALUE; DECOMPOSE; TIME; SERIES; SIGNAL; NON; LINEAR; SYSTEM; LOAD; LOW; NOISE; VECTOR; FIR; **FILTER**
Index Terms/Additional Words: FINITE; IMPULSE; RESPONSE
Derwent Class: T01; U22
International Patent Class (Main): G01H-017/00; G01M-019/00; G05B-013/02; G06F-015/18; G06F-015/20
International Patent Class (Additional): G01M-013/04; G01M-015/00; G06F-017/00; G06F-017/50; H03H-021/00
File Segment: EPI

18/5/17 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009157377 **Image available**
WPI Acc No: 1992-284823/ **199234**
XRPX Acc No: N92-217960
Vector associative **map system for non-supervised real-time learning - includes** vector associative **map implemented as adaptive** vector

integration-to-end point system for intra-modal operation
Patent Assignee: UNIV BOSTON (UYBO-N)
Inventor: GAUDIANO P; GROSSBERG S
Number of Countries: 015 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9213306	A1	19920806	WO 91US9820	A	19911230	199234	B
EP 567557	A1	19931103	WO 91US9820	A	19911230	199344	
			EP 92904146	A	19911230		
EP 567557	A4	19940126	EP 92904146	A	19920000	199529	

Priority Applications (No Type Date): US 91641462 A 19910115
Cited Patents: US 4688195; US 4829450; US 4852018; US 4884216; US 4897811; US 4974191; US 5089862; 2.Jnl.Ref
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9213306	A1	E	56	G06F-007/64	
Designated States (National): JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU MC NL SE					
EP 567557	A1	E	56	G06F-007/64	Based on patent WO 9213306
Designated States (Regional): DE FR GB					
EP 567557	A4			G06F-007/64	

Abstract (Basic): WO 9213306 A
The appts. comprises several interconnected **vector associative** map systems, **each** including a target map controller (12) for setting a predetermined goal for the system. The target map controller includes an **adaptive filter** . A present map controller (14) identifies the present state of the system. A difference vector network (16) aligns the state of the system identified by the present map controller with the target goal set by the target map controller and calibrates the **adaptive filter** to zero the difference vector when the target goal and present states are aligned.
The **vector associative** map systems are connected in parallel or in series. The target map controller may also transform the current state of the present map controller into a command representative of the predetermined goal.
ADVANTAGE - Learning and performance operations are carried out using the same circuitry and in real-time. Transfer between operation is autonomour.
Dwg.1/17
Title Terms: VECTOR; ASSOCIATE; MAP; SYSTEM; NON; SUPERVISION; REAL; TIME; LEARNING; **VECTOR** ; ASSOCIATE; MAP; IMPLEMENT; ADAPT; VECTOR; INTEGRATE ; END; POINT; SYSTEM; INTRA; MODE; OPERATE
Index Terms/Additional Words: **NEURAL** ; NETWORKS
Derwent Class: T01
International Patent Class (Main): G06F-007/64
International Patent Class (Additional): G06F-003/05; G06F-009/06; G06F-011/30; G06F-015/18; G06F-015/46
File Segment: EPI

18/5/18 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008881885 **Image available**
WPI Acc No: 1992-009154/ **199202**
Related WPI Acc No: 1990-208683
XRPX Acc No: N92-007040
Testing engine fuel injection systems - using two-stage test comparing exhaust characteristics with known engine performance to locate faults without disassembly
Patent Assignee: NOBIS G (NOBI-I)
Inventor: NOBIS G; WIRTH K
Number of Countries: 003 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week

EP 463536	A	19920102	EP 91109919	A	19910618	199202	B
DE 4020635	A	19920109	DE 4020635	A	19900629	199203	
EP 463536	A3	19920212	EP 91109919	A	19910618	199323	
EP 463536	B1	19960221	EP 91109919	A	19910618	199612	
DE 59107418	G	19960328	DE 507418	A	19910618	199618	
			EP 91109919	A	19910618		

Priority Applications (No Type Date): DE 4020635 A 19900629
Cited Patents: NoSR.Pub; DD 236242; DE 2516300; DE 2812545; DE 3105331
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 463536	A				
	Designated States (Regional): DE FR GB				
EP 463536	B1	G	11	F02M-065/00	
	Designated States (Regional): DE FR GB				
DE 59107418	G			F02M-065/00	Based on patent EP 463536

Abstract (Basic): EP 463536 A
In a first stage procedure to test efficiency of fuel injection systems, specific exhaust products, eg smoke and particle densities, are determined for known gases and energy inputs. These results are subjected to a 2nd **stage** multi-dimensional discrimination considering, eg. **filter** deterioration, engine temp. and air pressure.
Should limits have been exceeded, then fault location can be simply determined by comparison with classified engine conditions.
USE/ADVANTAGE - Quality control and fault diagnosis in motor prodn. Fault detection to component level at min. expense avoiding disassembly with only small extra test time overhead. (8pp Dwg.No.2/2
Title Terms: TEST; ENGINE; FUEL; INJECTION; SYSTEM; TWO; STAGE; TEST; COMPARE; EXHAUST; CHARACTERISTIC; ENGINE; PERFORMANCE; LOCATE; FAULT; DISASSEMBLE
Derwent Class: Q53; S02; X22
International Patent Class (Main): F02M-065/00
International Patent Class (Additional): G01M-015/00
File Segment: EPI; EngPI

18/5/19 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007721455 **Image available**
WPI Acc No: 1988-355387/ **198850**
Related WPI Acc No: 1988-355388; 1988-355391; 1988-355392; 1988-355393
XRPX Acc No: N88-269477
Motion vector reduction in television image - using vector filter **vector calculator and vector processor to select smaller number of vectors**
Patent Assignee: SONY CORP (SONY)
Inventor: GILLARD C H; HARRADINE V C; HARRADINE C V; RICHARDS J W; AVIS R J A
Number of Countries: 006 Number of Patents: 024
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 294956	A	19881214	EP 88304614	A	19880520	198850	B
GB 2205706	A	19881214	GB 8728445	A	19871204	198850	
GB 2205708	A	19881214	GB 8728447	A	19871204	198850	
GB 2205710	A	19881214	GB 8728449	A	19871204	198850	
GB 2205711	A	19881214	GB 8728450	A	19871204	198850	
GB 2205712	A	19881214	GB 8728451	A	19871204	198850	
JP 63313987	A	19881222	JP 88142352	A	19880609	198906	
US 4862259	A	19890829	US 88200531	A	19880531	198944	
GB 2205706	B	19910904				199136	
GB 2205708	B	19910904				199136	
GB 2205710	B	19910904				199136	
GB 2205711	B	19910904				199136	
GB 2205712	B	19910904				199136	
EP 294956	B1	19940720	EP 88304614	A	19880520	199428	

DE 3850709	G	19940825	DE 3850709	A	19880520	199433
			EP 88304614	A	19880520	
DE 3851655	G	19941103	DE 3851655	A	19880520	199443
			EP 88304618	A	19880520	
DE 3851786	G	19941117	DE 3851786	A	19880520	199445
			EP 88304620	A	19880520	
EP 294957	B1	19950412	EP 88304615	A	19880520	199519
EP 294962	B1	19950719	EP 88304621	A	19880520	199533
KR 9710043	B1	19970620	KR 886900	A	19880609	199945
KR 141705	B1	19980701	KR 886904	A	19880609	200017
KR 141701	B1	19980701	KR 886901	A	19880609	200017
KR 141702	B1	19980701	KR 886905	A	19880609	200017
KR 141703	B1	19980701	KR 886903	A	19880609	200017

Priority Applications (No Type Date): GB 8728445 A 19871204; GB 8713455 A 19870609; GB 8728447 A 19871204; GB 8728449 A 19871204; GB 8728450 A 19871204; GB 8728451 A 19871204
Cited Patents: 3.Jnl.Ref; A3...9104; DE 3613230; EP 181215; GB 2162018; GB 2172171; No-SR.Pub; US 3970776; US 4661849; WO 8502080
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 294956	A	E	24		
Designated States (Regional): DE FR GB					
US 4862259	A		22		
EP 294956	B1	E	31	H04N-007/01	
Designated States (Regional): DE FR GB					
DE 3850709	G			H04N-007/01	Based on patent EP 294956
DE 3851655	G			H04N-007/01	Based on patent EP 294960
DE 3851786	G			H04N-007/01	Based on patent EP 294961
EP 294957	B1	E	30	H04N-007/01	
Designated States (Regional): DE FR GB					
EP 294962	B1	E	32	H04N-007/01	
Designated States (Regional): DE FR GB					
KR 141705	B1			H04N-007/01	
KR 141701	B1			H04N-007/01	
KR 141702	B1			H04N-007/01	
KR 141703	B1			H04N-007/01	
KR 9710043	B1			H04N-007/01	

Abstract (Basic): EP 294956 A

The reducing appts. for the number of motion **vectors** **associated** with a digital television image, has a circuit (36 to 39) which derives, for each of pixels within the image, motion vectors representing the most common **vectors** of pixels in the block. **Each** **vector** has **associated** with it an indication of its accuracy.

A circuit (40) **associated** with the motion **vectors** , a further motion **vector** for the same position from the next field. **Each** of the further motion **vectors** has **associated** with it an indication of its accuracy. A circuit (40) selects a smaller number of motion vectors from the motion vectors and further motion vectors in dependence on these indications.

USE/ADVANTAGE - With TV standards converters and slow motion processors. Apparatus is smaller and less complex. 8728446, 8728447, 8728448, 8728449, 8728450, 8728451 and 8728452 relating to similar subject matter

Title Terms: MOTION; VECTOR; REDUCE; TELEVISION; IMAGE; VECTOR; **FILTER** ; VECTOR; CALCULATE; VECTOR; PROCESSOR; SELECT; SMALLER; NUMBER; VECTOR
Derwent Class: W04
International Patent Class (Main): H04N-007/01
International Patent Class (Additional): H04N-007/137; H04N-007/32; H04N-009/89; H04N-011/00
File Segment: EPI

18/5/20 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004710007
WPI Acc No: 1986-213349/ **198633**
XRPX Acc No: N86-159317
Speaker-independent speech recognition - has dynamics of speech signal and variability of speech features calibrated individually
Patent Assignee: TEXAS INSTR INC (TEXI)
Inventor: DODDINGTON G R; ENRICO B
Number of Countries: 004 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 190489	A	19860813	EP 85308328	A	19851115	198633	B
US 4908865	A	19900313	US 88290816	A	19881222	199016	
EP 190489	B	19911030				199144	
DE 3584567	G	19911205				199150	

Priority Applications (No Type Date): US 84687103 A 19841227; US 88224224 A 19880722; US 88290816 A 19881222
Cited Patents: 3.Jnl.Ref
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 190489	A	E	42		
Designated States (Regional): DE FR GB					
EP 190489	B				
Designated States (Regional): DE FR GB					

Abstract (Basic): EP 190489 A
A number of reference feature vectors organised in a number of reference frames which are representative of reference words are stored. Input feature vectors are formed in each of the frames. The dynamics of the input speech signals are explicitly accommodated by concatenating the input feature vectors for successive frames. The variability of the input feature vectors are explicitly calibrated individually for each of the reference frames. This is done by computing the covanance matrix of each of the input feature vectors for each reference frame.
The input feature vectors are transformed independently for each reference frame in response to the covanance matrices to provide optimum discrimination between the reference words. The input feature vectors may be formed by generating, by linear predictive coding, a number of spectral feature vectors for each frame of the input speech signals. The spectral feature vectors are then transformed into **filter** bank representatives.
ADVANTAGE - Gives speaker-independent recognition of corrected speech, with a finite vocabulary such as digits, gives reliable natural voice input for executive voice terminals, voice entry control, direct voice input to computers, etc
Title Terms: SPEAKER; INDEPENDENT; SPEECH; RECOGNISE; DYNAMIC; SPEECH; SIGNAL; VARIABLE; SPEECH; FEATURE; CALIBRATE; INDIVIDUAL
Derwent Class: P86; W04
International Patent Class (Additional): G10L-005/06
File Segment: EPI; EngPI

18/5/21 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004144247
WPI Acc No: 1984-289787/ **198447**
XRPX Acc No: N84-216129
Speaker-independent word recognition e.g. for automobile controls - by measuring zero crossing intervals giving feature vectors for comparison with reference vector sequences
Patent Assignee: TEXAS INSTR INC (TEXI)
Inventor: DODDINGTON G R; RAJASEKARA P; SCHALK T B
Number of Countries: 004 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 125422	A	19841121	EP 84102849	A	19840315	198447	B
US 4712242	A	19871208	US 83484730	A	19830413	198751	
US 4763278	A	19880809	US 83484820	A	19830413	198834	

Priority Applications (No Type Date): US 83484820 A 19830413; US 83484730 A 19830413
Cited Patents: 8.Jnl.Ref; EP 65829; GB 1225242; JP 56162183; US 3727193; US 3742143; US 4158750
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 125422	A	E	44		

Designated States (Regional): DE FR GB

Abstract (Basic): EP 125422 A

A method for recognising speech involves conditioning an analog input speech signal and measuring its zero crossing intervals to provide a sequence of binary feature vectors at predetermined frame intervals. Each vector is compared with each of a number of binary reference vectors organised in sequences.

Each reference vector sequence corresponds to a word which can be recognized. This provides a **distance** measure w.r.t. **each** reference **vector** for **each** successive **feature vector** . Words are recognised in accordance with the **distance** measures between **each** reference **vector** sequence and successively received frames of the digital signal. The recognising step may involve a dynamic programming step to provide an optimal sequence **match** between the **feature vector** sequence and the reference vector sequence.

USE/ADVANTAGE - For automotive control/instrumentation and video games. The system has a very low rate of substitution errors and can be implemented with an ordinary 8-bit microcomputer and does not require any high-speed or special-function processing chips. Preparation of reference templates requires minimal empirical input from trained researchers and can be implemented by minimally skilled users. It has absolutely minimal memory requirements for storing reference templates, and is insensitive to average rate and localized variations in speech timing.

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Title Terms: SPEAKER; INDEPENDENT; WORD; RECOGNISE; AUTOMOBILE; CONTROL; MEASURE; ZERO; CROSS; INTERVAL; FEATURE; VECTOR; COMPARE; REFERENCE; VECTOR; SEQUENCE
Index Terms/Additional Words: VIDEO; GAME
Derwent Class: P86; W04; X22
International Patent Class (Additional): G10L-001/04; G10L-005/00
File Segment: EPI; EngPI

18/5/22 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003623901
WPI Acc No: 1983-H2103K/ **198322**
XRPX Acc No: N83-093663

Continuous speech recognition system - uses recursive operation unit which computes set **of** similarity **measures between** feature vectors **and has decision unit**

Patent Assignee: NIPPONDENSO CO LTD (NPDE)
Inventor: ASADA H; NOJIRI T; TERAURA N
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 79578	A	19830525	EP 82110372	A	19821110	198322	B
DE 3237613	A	19830526				198322	
US 4530110	A	19850716	US 82427539	A	19820929	198531	
EP 79578	B	19861029				198644	
DE 3274032	G	19861204				198650	

Priority Applications (No Type Date): JP 81183635 A 19811118
Cited Patents: 3.Jnl.Ref
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
EP 79578 A E 66
Designated States (Regional): DE FR GB
EP 79578 B E
Designated States (Regional): DE FR GB

Abstract (Basic): EP 79578 A
The input speech signal is supplied to a feature extracting unit (102). The frequency of the speech signal is analysed by a Q-channel analysing **filter** so as to time sample the output **level** of each channel. A feature vector (alpha i) is produced, which is supplied to an input pattern buffer (103) so as to store the input pattern A for 1= is I.
A reference pattern buffer (104) has a number of reference patterns stored, the reference pattern including Q-degree vector. The feature vector supplied to a recursive computation section (105) which calculates a **similarity** measure between **vectors** . This **similarity** measure is supplied to a decision section (106), which compares it with a max. similarity measure at a given time.
8/15
Title Terms: CONTINUOUS; SPEECH; RECOGNISE; SYSTEM; RECURSIVE; OPERATE; UNIT; COMPUTATION; SET; SIMILAR; MEASURE; FEATURE; VECTOR; DECIDE; UNIT
Derwent Class: P86; W04
International Patent Class (Additional): G06F-003/16; G06F-015/20; G06K-009/00; G10L-001/00; G10L-005/06
File Segment: EPI; EngPI

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File 348:EUROPEAN PATENTS 1978-2004/Dec W01
         (c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20041209,UT=20041202
         (c) 2004 WIPO/Univentio

Set     Items   Description
S1       4052   (QUERY OR FEATURE OR INPUT)(1W)VECTOR? ?
S2       1216   S1(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NE-
                AR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR
                COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S3      59535   FILTER???(10N)(ITERAT? OR ADAPTIV? OR LEVEL? ? OR TIER?? OR
                STAGE? ? OR PHASE? ?)
S4         57   (NEAREST OR CLOSEST)(1W)CANDIDATE? ?
S5       5714   (REGION? ? OR AREA? ? OR CLUSTER? ? OR GROUP? ? OR SET? ?)-
                (7N)VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENE-
                SS OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALO-
                GOUS? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S6       3938   (NEAREST OR CLOSEST)(1W)NEIGHBOR???
S7       4171   ((ALL OR EVERY OR ENTIRE OR EACH)(5N)VECTOR? ?)(7N)(SIMILA-
                R? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NEAR???? OR PROXIM?
                OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR COMPARABLE OR CO-
                RRELAT? OR ASSOCIAT?)
S8          2   S2(50N)S3(50N)S4:S5(50N)S6:S7
S9      29690   VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS
                OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGO-
                US? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S10        21   S9(50N)S3(50N)S4:S5(50N)S6:S7
S11        14   S2(50N)FILTER???(50N)S4:S5(50N)S6:S7
S12       111   S9(50N)FILTER???(50N)S4:S5(50N)S6:S7
S13        18   S12 AND IC=G06F
S14        46   S8 OR S10 OR S11 OR S13
S15        29   S14 AND AC=US/PR
S16        26   S15 AND AY=(1970:2000)/PR
S17        31   S14 AND PY=1970:2000
S18        37   S16:S17
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18/3,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01198497
Video skimming system utilizing the vector rank filter
Sytem zum Abschopfen von Video mit einem auf geordnete Vektoren basierten Filter
Systeme pour ecremer des videos utilisant un filtre a base de vecteurs ordonnes
PATENT ASSIGNEE:
SHARP KABUSHIKI KAISHA, (260716), 22-22 Nagaike-cho Abeno-ku, Osaka 545-8522, (JP), (Applicant designated States: all)
INVENTOR:
Crinon, Regis J., 2346 NW Cascade Street, Camas, WA 98607, (US)
LEGAL REPRESENTATIVE:
MULLER & HOFFMANN Patentanwalte (101521), Innere Wiener Strasse 17, 81667 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1043664 A2 001011 (Basic)
APPLICATION (CC, No, Date): EP 105229 000313;
PRIORITY (CC, No, Date): US 287390 990406
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: **G06F-017/30**
ABSTRACT WORD COUNT: 206
NOTE:
Figure number on first page: 5

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200041	3444
SPEC A	(English)	200041	6655
Total word count - document A			10099
Total word count - document B			0
Total word count - documents A + B			10099

INTERNATIONAL PATENT CLASS: **G06F-017/30**

...ABSTRACT A2
Automated summarization of digital video sequences is accomplished using a vector rank **filter** (70). The consecutive frames of a digital video sequence can be represented as feature vectors which are successively accumulated in a set of **vectors** . The distortion of the **set** by the addition of **each** successive **vector** or the cumulative **distance** from **each** successive **vector** to **all** other **vectors** in the **set** is determined by a **vector** rank filter (70). When the distortion exceeds a threshold value the end of a video...

...is detected. Each frame in a video segment can be ranked according to its relative **similarity** to the other frames of the **set** by applying the vector rank **filter** (70) to the feature vectors representing the video frames. To produce a summary of a...

18/3,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01138920
Method and apparatus for generating multiple matched-filter PN vectors in a CDMA demodulator
Verfahren und Vorrichtung zur Erzeugung von mehreren PN-Vektoren fur angepasste Filter in einem CDMA Demodulator
Procede et dispositif de generation de vecteurs pseudoaleatoires multiples pour un filtre apparie dans un demodulateur AMRC
PATENT ASSIGNEE:

LUCENT TECHNOLOGIES INC., (2143720), 600 Mountain Avenue, Murray Hill, New Jersey 07974-0636, (US), (Applicant designated States: all)
INVENTOR:
Burns, Geoffrey F., 241 Willow Street, Macungie, PA 18062, (US)
LEGAL REPRESENTATIVE:
Watts, Christopher Malcolm Kelway, Dr. et al (37391), Lucent Technologies (UK) Ltd, 5 Mornington Road, Woodford Green Essex, IG8 0TU, (GB)
PATENT (CC, No, Kind, Date): EP 994573 A2 000419 (Basic)
APPLICATION (CC, No, Date): EP 99307830 991005;
PRIORITY (CC, No, Date): US 172457 981014
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: H04B-001/707
ABSTRACT WORD COUNT: 249
NOTE:
Figure number on first page: 2

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200016	673
SPEC A	(English)	200016	6251
Total word count - document A			6924
Total word count - document B			0
Total word count - documents A + B			6924

...CLAIMS 4, further comprising the step repeating steps a), b) and c) to provide an In- **phase** matched-filter vector of an In-phase channel and a Quadrature-phase matched-filter vector...

...and Quadrature-phase matched-filter vector;
g) alternatively providing the stored In-phase matched-filter **vector** and the stored Quadrature-phase **matched** -filter **vector** .
9. The method as recited in claim 1, further including the step of repeating of steps a) and b) to provide a plurality of **matched** -filter **vectors** , each having a different code-phase offset, for correlation with a received spread spectrum signal...

...including the step of repeating of steps a) and b) to provide a plurality of **matched** -filter **vectors** as at least two groups, each **matched** -filter **vector** of each group having the different code-phase offset related to a code-phase offset...

...comprising the step of retrieving, based on the fast-forward PN sequence, at least one **matched** -filter **vector** from a sequence table, each **matched** -filter **vector** stored in the table having a different code-phase offset of the reference PN sequence.
14. A **vector** generator for generating at least one **matched** -filter **vector** from a reference PN sequence, the reference PN sequence having an initial state and a...

18/3,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01111639
ADAPTIVE SEISMIC NOISE AND INTERFERENCE ATTENUATION METHOD
Adaptive Abschwachungsmethode zur Verringerung von seismischen Storgerauschen und Intereferenzen
METHODE D'ATTENUATION ADAPTATIVE DES BRUITS ET INTERFERENCES D'ORIGINE SISMIQUE
PATENT ASSIGNEE:
SCHLUMBERGER HOLDINGS LIMITED, (1189800), P.O. Box 71, Craigmuir Chambers , Road Town, Tortola, VG\(Proprietor designated states: , BE; CH; DE; DK; ES; FI; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; AT; CY)
SERVICES PETROLIERS SCHLUMBERGER, (253294), 42, rue Saint-Dominique,

75007 Paris, FR\(Proprietor designated states: , FR)
INVENTOR:
OZBEK, Ali, 17 Faulkner Close, Milton, Cambridge CB4 6EF, (GB)
LEGAL REPRESENTATIVE:
Macquet, Christophe et al (91634), Schlumberger Cambridge Research Ltd, High Cross, Madingley Road, Cambridge CB3 0EL, (GB)
PATENT (CC, No, Kind, Date): EP 1082623 A1 010314 (Basic)
EP 1082623 B1 020731
WO 9960423 991125
APPLICATION (CC, No, Date): EP 99922354 990518; WO 99GB1582 990518
PRIORITY (CC, No, Date): GB 9810708 980520
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: G01V-001/36
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200231	723
CLAIMS B	(German)	200231	681
CLAIMS B	(French)	200231	847
SPEC B	(English)	200231	8023
Total word count - document A			0
Total word count - document B			10274
Total word count - documents A + B			10274

...SPECIFICATION symmetric in the frequency-wavenumber space with respect to the origin. The resulting matrices (RA))(**equivalent** to)), C)are then all real valued.
The above described expansion of the projected steering **vectors** d(**equivalent** to))(f; k) is **analogous** to the Karhunen-Loeve expansion. While the original Karhunen-Loeve expansion is for a random **vector** , the expansion presented here is for a deterministic **set** of vectors. This is reflected in the way the approximation error functional (mu)P)) is...

...wqd)), which defines the first column of the constraint matrix;
- specification of the signal protection **region** A in the frequency-wavenumber space;
- computation of RA))(**equivalent** to)), the **correlation** matrix of **all** the projected steering **vectors** in **region** A; and
- determination of the principal eigenvectors (v1,)), .., vKL))) of RA))(**equivalent** to)) as the remaining columns of the constraint matrix.
Having computed these, the constraint matrix...

...the desired quiescent weight vector to form a desired quiescent response is essentially a non- **adaptive** multidimensional **filter** design problem, for which many techniques exist. Reference can be made for example to handbooks...

18/3,K/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00962557
Area based interpolation for image enhancement
Bildverbesserung unter Benutzung einer Flacheninterpolation
Amelioration d'images utilisant une interpolation de surface
PATENT ASSIGNEE:
Hewlett-Packard Company, A Delaware Corporation, (3016020), 3000 Hanover Street, Palo Alto, CA 94304, (US), (Proprietor designated states: all)
INVENTOR:
Atkins, Brian, 2250 Latham St. No. 80, Mountain View, CA 94040, (US)
Bouman, Charles A., 40 Clay St., West Lafayette, IN 47906, (US)
Allebach, Jan P., 1721 Woodland Ave., West Lafayette, IN 47906, (US)
Gondek, Jay S., 2322 NW Norwood, St. Camas, WA 98607, (US)
Schramm, Morgan T., 3275 SE Harrison Street, Portland, OR 97214, (US)

Sliz, Frank W., 5818 N.E. 82nd Court, Vancouver, WA 98662, (US)
LEGAL REPRESENTATIVE:
Schoppe, Fritz, Dipl.-Ing. et al (55463), Schoppe, Zimmermann, Stockeler & Zinkler Patentanwalte Postfach 246, 82043 Pullach bei Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 874330 A2 981028 (Basic)
EP 874330 A3 000503
EP 874330 B1 040324
APPLICATION (CC, No, Date): EP 98106974 980416;
PRIORITY (CC, No, Date): US 837619 970421
DESIGNATED STATES: DE; GB
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: G06T-003/40
ABSTRACT WORD COUNT: 137
NOTE:
Figure number on first page: 1A

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	199844	2758
CLAIMS B	(English)	200413	2839
CLAIMS B	(German)	200413	2562
CLAIMS B	(French)	200413	3229
SPEC A	(English)	199844	8778
SPEC B	(English)	200413	8052
Total word count - document A			11539
Total word count - document B			16682
Total word count - documents A + B			28221

...SPECIFICATION to the process.

CONCLUSION AND SOME ALTERNATIVES
Resolution synthesislocally **adaptive** . As in the exemplary embodiment, a different set of filters may be used to interpolate...

...effects of each filter are scaled by the filter weight which was based on how **close** the **cluster vector** y **matched** the filter's mean **vector** , **each** being a representation of some imaging characterizing factor of the window of pixels currently being...

...time efficient resolution synthesis, merely the closest filter or the first filter having a location **vector matched** closely enough to a predetermined tolerance of the **cluster vector** might be selected and used. While strictly speaking such reduced interpolations are sub-optimal, depending...

...SPECIFICATION to the process.

CONCLUSION AND SOME ALTERNATIVES
Resolution synthesis according to the invention is locally **adaptive** . As in the exemplary embodiment, a different set of filters may be used to interpolate...

...effects of each filter are scaled by the filter weight which was based on how **close** the **cluster vector** y **matched** the filter's mean **vector** , **each** being a representation of some imaging characterizing factor of the window of pixels currently being...

...time efficient resolution synthesis, merely the closest filter or the first filter having a location **vector matched** closely enough to a predetermined tolerance of the **cluster vector** might be selected and used. While strictly speaking such reduced interpolations are sub-optimal, depending...

18/3,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00770844
VECTOR ENCODING METHOD AND ENCODER/DECODER USING THE METHOD
VERFAHREN ZUR VEKTORKODIERUNG UND ENTSPRECHENDER KODIERER/DEKODIERER
PROCEDE DE CODAGE DE VECTEURS ET CODEUR/DECODEUR ASSOCIE
PATENT ASSIGNEE:
NIPPON TELEGRAPH AND TELEPHONE CORPORATION, (686339), 19-2 Nishi-Shinjuku 3-chome, Shinjuku-ku, Tokyo 163-19, (JP), (Proprietor designated states: all)
INVENTOR:
KATAOKA, Akitoshi, 19-6-304, Sekimachi-minami 4-chome Nerima-ku, Tokyo 177, (JP)
IKEDO, Jotaro, 2-1-3-3-507, Hayashi Yokosuka-shi, Kanagawa 238-03, (JP)
LEGAL REPRESENTATIVE:
Hoffmann, Eckart, Dipl.-Ing. (5571), Patentanwalt, Bahnhofstrasse 103, 82166 Grafelfing, (DE)
PATENT (CC, No, Kind, Date): EP 786762 A1 970730 (Basic)
EP 786762 A1 990303
EP 786762 B1 020612
WO 9611468 960418
APPLICATION (CC, No, Date): EP 95932940 950929; WO 95JP1989 950929
PRIORITY (CC, No, Date): JP 94244128 941007
DESIGNATED STATES: DE; FR; GB; IT; SE
INTERNATIONAL PATENT CLASS: H03M-007/30; G10L-019/04
ABSTRACT WORD COUNT: 146
NOTE:
Figure number on first page: 2A

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	199707W5	4401
CLAIMS B	(English)	200224	5093
CLAIMS B	(German)	200224	4678
CLAIMS B	(French)	200224	5496
SPEC A	(English)	199707W5	8233
SPEC B	(English)	200224	8124
Total word count - document A			12637
Total word count - document B			23391
Total word count - documents A + B			36028

...CLAIMS control part (6) includes:
. means for pre-selecting from each of said M codebooks , a **group** of weighted representative **vectors** adjacent or **close** to the point of projection of the input **vector** on a corresponding one of M straight lines (27, 281, said M straight lines (27...

...of said M codebooks ; wherein said distance calculating part (5) is controlled to calculate said **distance** for **every** combination of M weighted representative **vectors** selected from said M **groups** so as to obtain the combination of weighted representative **vectors** which minimizes said **distance** .
20. An encoder for encoding an **input** acoustic **vector** representing an input acoustic signal, comprising:
M excitation source codebooks (39, 43) each having a...

...quantizing said parameters and for setting said quantized parameters as filter coefficients in said synthesis **filter** (37);
distortion calculating means (5) for calculating the difference between said input acoustic signal and...

18/3,K/7 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00580243
A METHOD FOR ESTIMATING MOTION CONTENTS IN VIDEO SIGNALS

VERFAHREN ZUR SCHATZUNG DER BEWEGUNGSTEILE IN VIDEOSIGNALEN
PROCEDE D'ESTIMATION DES PARTIES A MOUVEMENT CONTENUS DANS DES SIGNAUX VIDEO

PATENT ASSIGNEE:
DV SWEDEN AB, (1571810), Uplagsvagen 1-5, S-117 43 Stockholm, (SE),
(applicant designated states: DE;FR;GB)
INVENTOR:
WEISS, Peter, Oskar Baeckstroms Vag 13, S-126 54 Hagersten, (SE)
CHRISTENSSON, Bjorn, Ottekilsvagen 22, S-124 20 Bandhagen, (SE)
LEGAL REPRESENTATIVE:
Modin, Jan et al (23701), c/o Axel Ehrners Patentbyra AB Box 10316, 100 55 Stockholm, (SE)
PATENT (CC, No, Kind, Date): EP 579692 A1 940126 (Basic)
EP 579692 B1 961009
WO 9219068 921029
APPLICATION (CC, No, Date): EP 92908559 920403; WO 92SE219 920403
PRIORITY (CC, No, Date): SE 911113 910412
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: H04N-005/14; H04N-007/01; H04N-007/24;
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB96	463
CLAIMS B	(German)	EPAB96	411
CLAIMS B	(French)	EPAB96	525
SPEC B	(English)	EPAB96	2659
Total word count - document A			0
Total word count - document B			4058
Total word count - documents A + B			4058

...SPECIFICATION the penalty value forms a new matching criterium EM(sub(CMV)) for a candidate motion **vector** CMV. This distance D is being the absolute value of the difference between the predicted...

...motion vector CMV for the present reference block within the search area. This candidate motion **vector** CMV, is assigned to the present reference block only if its **matching** criterion EMN(sub(CMV)) is better than that of the predicted motion **vector** PMV or better than that of any other candidate motion vector.
Reference is now made...

...compared to every reference block displaced by a candidate motion vector CMV within the search **area** and that the zero motion **vector** ZMV can be selected if the zero motion **vector** **matching** criterion EMzmv is better than the **matching** criterion EM for all candidate motion **vectors** CMV.
Fig. 6a illustrates three motion **vectors** MVPN-1, MVPN (and its inversion -MVPN), MVPN+1 represented by arrows asserted between spatial ...

...the temporal post processing, said motion vector field MVF(sub(in)) is fed into an **adaptive** motion compensated temporal **filter** AMCTF, shown in fig. 6b, in which a motion compensator MC compensates for the motion ...

...selector FS selects either a median filter MF or a linear filter LF, whereupon a **filtered** motion vector field MVF(sub(out)) is obtained from the **adaptive** motion compensated temporal **filter** AMCTF.
Said three motion vectors in the three consecutive pictures of fig. 6a are assumed...

18/3,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00570062
Method for converting image data to vector data.
Verfahren zur Umwandlung von Bilddaten in Vektordaten.
Methode de conversion de donnees d'images en donnees vectorielles.
PATENT ASSIGNEE:
AMERICAN MEDICAL ELECTRONICS, INC., (1521930), 250 East Arapaho Road, Richardson, Texas 75080, (US), (applicant designated states: BE;CH;DE;FR;GB;IT;LI;NL)
INVENTOR:
Crook, David F., 2145 Sword Drive, Garland, Texas, (US)
LEGAL REPRESENTATIVE:
UEXKULL & STOLBERG Patentanwalte (100011), Beselerstrasse 4, D-22607 Hamburg, (DE)
PATENT (CC, No, Kind, Date): EP 574099 A2 931215 (Basic)
EP 574099 A3 940309
APPLICATION (CC, No, Date): EP 93250008 930108;
PRIORITY (CC, No, Date): US 896597 920610
DESIGNATED STATES: BE; CH; DE; FR; GB; IT; LI; NL
INTERNATIONAL PATENT CLASS: **G06F-015/64**
ABSTRACT WORD COUNT: 75
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	623
SPEC A	(English)	EPABF1	3627
Total word count - document A			4250
Total word count - document B			0
Total word count - documents A + B			4250

INTERNATIONAL PATENT CLASS: **G06F-015/64**

...CLAIMS of the boundary of the object, part of the surface hidden from view;
generating a **vector** to **each set** of points; and
associating each vector with a pole of a control polygon of a non-uniform rational B-spline.
12...

...a surface representation of the structure of interest using the filtered image data;
generating a **set** of **vectors** from the surface representation defining the boundary of the structure of interest;
associating each vector with a pole of a non-uniform rational B-spline to create a series of...

18/3,K/9 (Item 9 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00438587
Image movement field segmentation process for video image coding
Verfahren zur Teilung des Bewegungsfeldes eines Bildes zum Kodieren eines Videobildes
Procede de segmentation du champ de mouvement d'une image pour le codage d'images video
PATENT ASSIGNEE:
THOMSON multimedia, (1090174), 9, place des Vosges La Defense 5, 92400 Courbevoie, (FR), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)
INVENTOR:
Kerdranvat, Michel, THOMSON-CSF SCPI Cedex 67, F-92045 Paris la Defense, (FR)
LEGAL REPRESENTATIVE:
Ruellan-Lemonnier, Brigitte et al (47342), THOMSON Multimedia, 9 Place des Vosges La Defense 5, 92050 Paris La Defense, (FR)
PATENT (CC, No, Kind, Date): EP 406074 A1 910102 (Basic)
EP 406074 B1 960821

APPLICATION (CC, No, Date): EP 90401774 900622;
PRIORITY (CC, No, Date): FR 898547 890627
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: G06T-007/20; G06T-009/40;
ABSTRACT WORD COUNT: 123

LANGUAGE (Publication,Procedural,Application): French; French; French
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB96	942
CLAIMS B	(German)	EPAB96	910
CLAIMS B	(French)	EPAB96	906
SPEC B	(French)	EPAB96	5244
Total word count - document A			0
Total word count - document B			8002
Total word count - documents A + B			8002

...CLAIMS of the contents of the corresponding locations of the histogram table, then in eliminating the **vectors** close to a vector of higher rank, to form a sequence, to within a threshold...

...established for the preceding image and eliminating vectors which are estimated distant from all the **vectors** of the **set** **associated** with the preceding image.

10. Method according to Claim 1, characterised in that the reassigning phase (7) consists in seeking, in the **set** of dominant **vectors** , the **vector** closest to the initial **vector** of the block by calculating a **distance** between the initial **vector** and each of the dominant **vectors** and selecting the dominant **vector** leading to the minimum **distance** (D(sub(1))(K)).
11. Method according to Claim 10, characterised in that the dominant **vector** leading to the minimum **distance** is reassigned to the block only if this **distance** is less than a threshold (S(sub(5))), the blocks to which no **vector** has

18/3,K/10 (Item 10 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00399497
Method and apparatus for diagnosing an electronic automotive control system by means of pattern recognition
Verfahren und Einrichtung zur Diagnose des elektronischen Steuersystems eines Kraftfahrzeuges mit Hilfe der Mustererkennung
Procedure et appareil pour diagnostiquer un systeme de reglage electronique d'un vehicule par intermediaire de reconnaissance de caracteres
PATENT ASSIGNEE:
FORD MOTOR COMPANY LIMITED, (476310), Eagle Way, Brentwood, Essex CM13 3BW, (GB), (applicant designated states: GB)
FORD FRANCE S. A., (476291), B.P. 307, 92506 Rueil-Malmaison Cedex, (FR), (applicant designated states: FR)
FORD-WERKE AKTIENGESELLSCHAFT, (476351), , 50725 Koln, (DE), (applicant designated states: DE)
INVENTOR:
Marko, Kenneth Andrew, 2224 Highland, Ann Arbor, Michigan 48104, (US)
James, John Victor, 4301 Arbour Drive, Walled Lake,, Michigan 48088, (US)
LEGAL REPRESENTATIVE:
Messulam, Alec Moses et al (33832), A. Messulam & Co. 24 Broadway, Leigh on Sea Essex SS9 1BN, (GB)
PATENT (CC, No, Kind, Date): EP 398481 A2 901122 (Basic)
EP 398481 A3 911009
EP 398481 B1 961016
APPLICATION (CC, No, Date): EP 90303321 900328;
PRIORITY (CC, No, Date): US 353726 890518
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: **G06F-017/00** ; G01R-031/00; G01M-015/00
ABSTRACT WORD COUNT: 129

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	783
CLAIMS B	(English)	EPAB96	725
CLAIMS B	(German)	EPAB96	668
CLAIMS B	(French)	EPAB96	879
SPEC A	(English)	EPABF1	5362
SPEC B	(English)	EPAB96	5495
Total word count - document A			6145
Total word count - document B			7767
Total word count - documents A + B			13912

INTERNATIONAL PATENT CLASS: **G06F-017/00** ...

...CLAIMS parameters including individual firing events inputting said engine parameters and respective condition codes as training **vectors** to a pattern recognition system to correlate patterns in said engine parameters with respective selected...

...pattern recognition system being in multiple sets corresponding respectively to the selected engine operating conditions, **each vector** in **each set** being **associated** with a condition code corresponding to the respective engine operating condition, conducting an engine operating...

...to respective engine operating conditions, the training vectors input to the database being in multiple **sets** corresponding respectively to the selected engine operating conditions and **each vector** in **each set** being **associated** with a condition code corresponding to the respective operating condition, and pattern recognition means (14...

18/3,K/11 (Item 11 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00338450
Image shake detecting device.
Einrichtung zur Feststellung des Bildzitterns.
Detecteur de tremblotement d'image.
PATENT ASSIGNEE:
CANON KABUSHIKI KAISHA, (542361), 30-2, 3-chome, Shimomaruko, Ohta-ku, Tokyo, (JP), (applicant designated states: DE;FR;GB;NL)
INVENTOR:
Sekine, Masayoshi, 1-10, Ichigaya-nakano-cho, Shinjuku-ku Tokyo, (JP)
Nakajima, Toshiyuki, 2-1-8, Shibamata, Katsushika-ku Tokyo, (JP)
Kai, Takashi, 1505-2, Tsurumaki, Hatano-shi Kanagawa-ken, (JP)
Yoshimura, Katsuji, 7-5, Nakazawa-cho, Hamamatsu-shi Shizuoka-ken, (JP)
Toyama, Masamichi, 3-17, Honmoku-motomachi Naka-ku, Yokohama-shi Kanagawa-ken, (JP)
LEGAL REPRESENTATIVE:
Pellmann, Hans-Bernd, Dipl.-Ing. et al (9227), Patentanwaltsburo Tiedtke-Buhling-Kinne & Partner Bavariaring 4, D-80336 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 332169 A1 890913 (Basic)
EP 332169 B1 930303
APPLICATION (CC, No, Date): EP 89104111 890308;
PRIORITY (CC, No, Date): JP 8857670 880310; JP 8892695 880415; JP 8892697 880415; JP 88123625 880519; JP 88269554 881027; JP 8927038 890206
DESIGNATED STATES: DE; FR; GB; NL
INTERNATIONAL PATENT CLASS: H04N-005/225; H04N-005/21; H04N-003/26;
ABSTRACT WORD COUNT: 181

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count

CLAIMS B (English) EPBBF1 5078
CLAIMS B (German) EPBBF1 1270
CLAIMS B (French) EPBBF1 1867
SPEC B (English) EPBBF1 22216
Total word count - document A 0
Total word count - document B 30431
Total word count - documents A + B 30431

...SPECIFICATION to 358 which are arranged to detect a movement of the object on the basis **of** movement **vector** information obtained from the movement **vector** detecting circuit 330. A restart determining circuit 346 is provided for restarting the automatic focusing device.
Referring to Fig. 23, the restart determining circuit 346 is **arranged** to **receive** the output of the movement **vector** detecting circuit 330, the outputs of a **distance** measuring **area** setting circuit 348 and the output of a comparison circuit 358 and to determine according...

...area setting circuit 348. A detection circuit 352 is arranged to convert into a DC **level** signal the high-frequency component extracted by the high-pass **filter** 350. An integrating circuit 354 is arranged to integrate for a given period the DC...the positive or negative value of the sum "d". More specifically, the object can be **considered** to have come closer to the photo-taking lens 314 **if** the sum "d" is larger than zero. In this instance, the focal point of the...

...a near-focus state of the lens.
With the divergence "divA" of the optical flow **vector** within the **distance** measuring area examined in this manner, any change occurred in the object distance and the...

...stably and accurately restarted.
Further, in accordance with the invention, a change in the object **distance** can be reliably detected **by** carrying out the statistical process on the movement **vectors** to compute the divergence of the optical flow vectors even in the event of a...
...the conventional device.
In accordance with the arrangement of the embodiment of this invention as **mentioned** in the foregoing, the optical flow of the **image** plane is **obtained** by **detecting** the movement **vectors** for **each** of the plurality of blocks on the image sensing plane; the occurrence or nonoccurrence of...

18/3,K/12 (Item 12 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00313502
Code excited linear predictive vocoder and method of operation.
Linearer Pradiktionsvocoder mit Code-Anregung.
Vocoder a prediction lineaire excite par codes.
PATENT ASSIGNEE:
AMERICAN TELEPHONE AND TELEGRAPH COMPANY, (589370), 550 Madison Avenue, New York, NY 10022, (US), (applicant designated states: AT;BE;DE;FR;GB;IT;NL;SE)
INVENTOR:
Ketchum, Richard Harry, 1754C Plymouth Court, Wheaton Illinois 60187, (US)
Kleijn, Willem Bastiaan, 238 North Van Nortwick, Batavia Illinois 60510, (US)
Krasinski, Daniel John, 1407 Fairway Drive, Glendale Heights Illinois 60139, (US)
LEGAL REPRESENTATIVE:
Watts, Christopher Malcolm Kelway, Dr. et al (37392), AT&T (UK) LTD. AT&T Intellectual Property Division 5 Mornington Road, Woodford Green Essex IG8 OTU, (GB)
PATENT (CC, No, Kind, Date): EP 296764 A1 881228 (Basic)
EP 296764 B1 920909

APPLICATION (CC, No, Date): EP 88305526 880617;
PRIORITY (CC, No, Date): US 67650 870626
DESIGNATED STATES: AT; BE; DE; FR; GB; IT; NL; SE
INTERNATIONAL PATENT CLASS: G10L-009/14;
ABSTRACT WORD COUNT: 160

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	1295
CLAIMS B	(German)	EPBBF1	838
CLAIMS B	(French)	EPBBF1	1120
SPEC B	(English)	EPBBF1	5349
Total word count - document A			0
Total word count - document B			8602
Total word count - documents A + B			8602

...SPECIFICATION t representing the target excitation by subtracting vector z from vector s and processing the **resulting** signal **vector** through the **all** -zero LPC **analysis** filter also derived **from** the LPC coefficients **generated** by **LPC** analyzer 101 and transmitted via path 121. **The** target excitation **vector** t is obtained by performing a convolution operation **of** the all-zero LPC analysis filter, also referred to as a whitening filter, and the...

...signal processing techniques.
Adaptive searcher 106 searches adaptive codebook 104 to find a candidate excitation **vector** r that best **matches** the target excitation **vector** t. **Vector** r is also referred to as a **set** of excitation information. The error criterion used to determine the best match is the square...

...CLAIMS group of said candidate excitation frames are filled entirely with samples accessed sequentially from said **adaptive** code book.
4. The method of Claim 3 characterised by further comprising the steps of:
calculating a temporary excitation frame from **said** first excitation frame and the selected excitation frame;
calculating (101) a **set** of filter coefficients in response to a present one of said speech frames;
calculating (103...

...response filter based on said filter coefficients for said present speech frame;
calculating (705) a **cross - correlation** value in response to **said** temporary excitation frame and said spectral **weighting** matrix and **each** of a **plurality** of other candidate **excitation** frames stored in **a** stochastic code book;
recursively **calculating** (703) an energy value for **each** of said other candidate excitation frames in response to said temporary excitation frame and said...

...706) an error value for each of said other candidate excitation frames in response to **each** **of** said cross- **correlation** and energy values for each of said other candidate excitation frames and
selecting (714) the...

18/3,K/13 (Item 13 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00272210
3D Video transmission.
Dreidimensionale Videoubertragung.
Transmission video tridimensionnelle.
PATENT ASSIGNEE:
BRITISH BROADCASTING CORPORATION, (215360), Broadcasting House, London

W1A 1AA, (GB), (applicant designated states: DE;FR;NL)
INVENTOR:
Morton, David Hugh, 10, Wolf's Row Limpsfield, Oxted Surrey, (GB)
LEGAL REPRESENTATIVE:
Abnett, Richard Charles et al (27531), REDDIE & GROSE 16 Theobalds Road, London WC1X 8PL, (GB)
PATENT (CC, No, Kind, Date): EP 267000 A2 880511 (Basic)
EP 267000 A3 881207
EP 267000 B1 931020
APPLICATION (CC, No, Date): EP 87309703 871103;
PRIORITY (CC, No, Date): GB 8626527 861106
DESIGNATED STATES: DE; FR; NL
INTERNATIONAL PATENT CLASS: H04N-013/00;
ABSTRACT WORD COUNT: 145
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	1175
CLAIMS B	(German)	EPBBF1	788
CLAIMS B	(French)	EPBBF1	998
SPEC B	(English)	EPBBF1	2627
Total word count - document A			0
Total word count - document B			5588
Total word count - documents A + B			5588

...SPECIFICATION correlation surface between the two pictures. A searching circuit 52 locates the peaks in the **correlation** surface and produces a **set** of trial "motion" or "depth" **vectors** V(sub 1) to V(sub(n)) corresponding to the differences between the two pictures...

...output of camera 2 as compared to camera 1.
The second stage involves trying out **each** of these possible **vectors** on **every** pixel (picture element) and assigning the **vector** that gives the best fit. The left and right picture signals pass through a pair...

18/3,K/14 (Item 14 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00222949
Pattern classification means.
Musterklassifikationsmittel.
Moyens de classification de modeles.
PATENT ASSIGNEE:
THE PALANTIR CORPORATION, (799640), 2455-B Augustine Drive, Santa Clara California 95051, (US), (applicant designated states: DE;FR;GB;IT;NL)
INVENTOR:
Bokser, Mindy R., 1644 Washington Street, No. 3, San Francisco California 94109, (US)
LEGAL REPRESENTATIVE:
W.P. THOMPSON & CO. (101052), Celcon House 289-293 High Holborn, London WC1V 7HU, (GB)
PATENT (CC, No, Kind, Date): EP 220032 A2 870429 (Basic)
EP 220032 A3 900314
APPLICATION (CC, No, Date): EP 86307869 861010;
PRIORITY (CC, No, Date): US 786035 851010
DESIGNATED STATES: DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: G06K-009/62;
ABSTRACT WORD COUNT: 171
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1369
SPEC A	(English)	EPABF1	23155
Total word count - document A			24524
Total word count - document B			0
Total word count - documents A + B			24524

...SPECIFICATION generation technique.
The medium possibility spheres are used during the classification of unknown characters to **filter** out candidates, since if the unknown character **feature** **vector** lies outside **all** of the possibility spheres **associated** with the medium ringed- **clusters** for a selected candidate, it is deemed impossible for the selected candidate to be the ...

18/3,K/15 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00897628 **Image available**
SYSTEM AND METHOD FOR LINEAR PREDICTION
SYSTEME ET PROCEDE DE PREDICTION LINEAIRE
Patent Applicant/Assignee:
SCIENCE APPLICATIONS INTERNATIONAL CORPORATION, 10260 Campus Point Drive, San Diego, CA 92121, US, US (Residence), US (Nationality)
Inventor(s):
WITZGALL Hanna Elizabeth 5317 N 5th Street, Arlington, VA 22203, US,
GOLDSTEIN Jay Scott, 15118 Stillfield Place, Centreville, VA 20120, US,
Legal Representative:
MARCOU George (agent), Kilpatrick Stockton LLP, Suite 900, 607 Fourteenth St., N.W., Washington, DC 20005, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200231815 A1 20020418 (WO 0231815)
Application: WO 2001US42582 20011010 (PCT/WO US0142582)
Priority Application: US 2000239931 20001013
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK
SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 9438

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... a rank reduction
transformation produced by decomposition of the observed data matrix in a multi- **stage** Wiener filter having a plurality of stages, each stage comprising projection onto two subspaces, wherein...

...observed data matrix onto each of an initial first subspace comprising an initial normalized cross- **correlation** **vector** comprising a **correlation** **vector** between a
known data point from the **set** of known data points and the observed data
points and an initial second subspace comprising the null space of the initial
normalized cross- **correlation** **vector** , and **each** subsequent stage comprises
projecting data transformed by the preceding second subspace onto each of a
first subspace comprising a normalized cross- **correlation** **vector** at the

previous stage and a second subspace comprising the null space of the normalized cross- **correlation** **vector** of the current stage; and (b) minimizing the mean squared error in the reduced rank...

Claim
... a rank reduction transformation produced by decomposition of the observed data matrix in a multi- **stage** Wiener filter
having a plurality of stages, each stage comprising projection onto two subspaces, wherein...

...observed
data matrix onto each of an initial first subspace comprising an initial normalized cross- **correlation** **vector** comprising a **correlation** **vector**
between a known data point from the **set** of known data points and the I 0 observed data points in the receiver and an initial second subspace comprising the null space of the initial normalized cross- **correlation** **vector** , and **each** subsequent stage comprises projecting data transformed by the preceding second subspace onto each of a first subspace comprising a normalized cross- **correlation** **vector** at the 1 5 previous stage and a second subspace comprising the null space of the normalized cross- **correlation** **vector** of the current stage; (b) minimizing the mean squared error in the reduced rank data...

18/3,K/16 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00881898
ULTRA-SENSITIVE DETECTION SYSTEMS
SYSTEMES DE DETECTION ULTRASENSIBLES
Patent Applicant/Assignee:
AGILIX CORPORATION, 2 Church Street South, Suite 401, New Haven, CT 06519 , US, US (Residence), US (Nationality)
Inventor(s):
CHAIT Brian T, 500 East 63rd Street, Apt. 20D, New York, NY 10021, US,
LATIMER Darin R, 15 Cutters Lookout, East Haven, CT 06513, US,
LIZARDI Paul M, 7 Stoney Brook Road, Wallingford, CT 06492, US,
KERSHNAR Eric R, 527 Chapel Street, Apt. D2, New Haven, CT 06511, US,
MORROW Jon S, 85 Soundview Avenue, Madison, CT 06443, US,
ROTH Matthew E, 20 Medley Lane, Branford, CT 06405, US,
MATTESSICH Martin J, 37 Seymour Road, Woodbridge, CT 06525, US,
MCCONNEL Kevin J, 108 Harbor Street, Branford, CT 06405, US,
Legal Representative:
HODGES Robert A (et al) (agent), Needle & Rosenberg, P.C., 127 Peachtree Street, N.E., Suite 1200, Atlanta, GA 30303-1811, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200214867 A2-A3 20020221 (WO 0214867)
Application: WO 2001US41709 20010813 (PCT/WO US0141709)
Priority Application: US 2000224939 20000811; US 2001283498 20010412
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 115868

Fulltext Availability:

Detailed Description

Detailed Description
... useful for creating cells, cell lines, and organisms that have particular protein(s), gene(s), **vector** (s), and/or expression sequence(s) labeled (that is, **associated** with or involved in) reporter signal fusions. For example, a set of nucleic acid constructs...100 T cell or B cell receptors, one would need to make use of a **similar** number of antibodies to those receptors, something that in practice is not done. Therefore, there...

18/3,K/17 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00876935 **Image available**
APPROXIMATING THE MAGNTIDUE AND PHASE OF A COMPLEX NUMBER
ESTIMATION EFFICACE D'UN SPECTRE D'AMPLITUDE
Patent Applicant/Assignee:
MOTOROLA INC, 1303 East Algonquin Road, Schaumburg, IL 60196, US, US (Residence), US (Nationality)
Inventor(s):
CHATTERJEE Manjirnath, 247 Arriba #9, Sunnyvale, CA 94086, US,
Legal Representative:
WATANABE David (et al) (agent), AN475, 600 North U.S. Highway 45, Libertyville, IL 60048, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200211119 A2-A3 20020207 (WO 0211119)
Application: WO 2001US24425 20010802 (PCT/WO US0124425)
Priority Application: US 2000630885 20000802
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 13369

Main International Patent Class: **G06F-007/48**
International Patent Class: **G06F-017/17**
Fulltext Availability:
Detailed Description

Detailed Description
... template feature vectors representing larger phrases or commands may be stored in a template feature **vector** library 452, as indicated,
in a variety of ways, such by computing one or more **distance** metrics or **correlating** functions between the nonnalized feature **vectors** and **each** of the **sets** of template feature **vectors** . The template feature **vectors** having the minimum **distance** metric or closest **correlation** in a best-fit match may be used to select recognition elements.

There are many...

...analysis frame are bandpass
filtered by a series of filters covering different frequency bands. The **filters** may be applied in any computational manner desired in either the time domain or the...

18/3,K/18 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00822995
NUCLEIC ACIDS, PROTEINS, AND ANTIBODIES
ACIDES NUCLEIQUES, PROTEINES ET ANTICORPS
Patent Applicant/Assignee:
HUMAN GENOME SCIENCES INC, 9410 Key West Avenue, Rockville, MD 20850, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
ROSEN Craig A, 22400 Rolling Hill Lane, Laytonsville, MD 20882, US, US (Residence), US (Nationality), (Designated only for: US)
BARASH Steven C, 111 Watkins Pond Boulevard, #301, Rockville, MD 20850, US, US (Residence), US (Nationality), (Designated only for: US)
RUBEN Steven M, 18528 Heritage Hill Drive, Olney, MD 20832, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
HOOVER Kenley K (et al) (agent), Human Genome Sciences, Inc., 9410 Key West Avenue, Rockville, MD 20850, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200155302 A2-A3 20010802 (WO 0155302)
Application: WO 2001US1240 20010117 (PCT/WO US0101240)
Priority Application: US 2000179065 20000131; US 2000180628 20000204; US 2000184664 20000224; US 2000186350 20000302; US 2000189874 20000316; US 2000190076 20000317; US 2000198123 20000418; US 2000205515 20000519; US 2000209467 20000607; US 2000214886 20000628; US 2000215135 20000630; US 2000216647 20000707; US 2000216880 20000707; US 2000217487 20000711; US 2000217496 20000711; US 2000218290 20000714; US 2000220963 20000726; US 2000220964 20000726; US 2000225757 20000814; US 2000225270 20000814; US 2000225447 20000814; US 2000225267 20000814; US 2000225758 20000814; US 2000225268 20000814; US 2000224518 20000814; US 2000224519 20000814; US 2000225759 20000814; US 2000225213 20000814; US 2000225266 20000814; US 2000225214 20000814; US 2000226279 20000818; US 2000226868 20000822; US 2000227182 20000822; US 2000226681 20000822; US 2000227009 20000823; US 2000228924 20000830; US 2000229344 20000901; US 2000229343 20000901; US 2000229287 20000901; US 2000229345 20000901; US 2000229513 20000905; US 2000229509 20000905; US 2000230438 20000906; US 2000230437 20000906; US 2000231413 20000908; US 2000232080 20000908; US 2000231414 20000908; US 2000231244 20000908; US 2000232081 20000908; US 2000231242 20000908; US 2000231243 20000908; US 2000231968 20000912; US 2000232401 20000914; US 2000232399 20000914; US 2000232400 20000914; US 2000232397 20000914; US 2000233063 20000914; US 2000233064 20000914; US 2000233065 20000914; US 2000232398 20000914; US 2000234223 20000921; US 2000234274 20000921; US 2000234997 20000925; US 2000234998 20000925; US 2000235484 20000926; US 2000235834 20000927; US 2000235836 20000927; US 2000236369 20000929; US 2000236327 20000929; US 2000236370 20000929; US 2000236368 20000929; US 2000236367 20000929; US 2000237039 20001002; US 2000237038 20001002; US 2000237040 20001002; US 2000237037 20001002; US 2000236802 20001002; US 2000239937 20001013; US 2000239935 20001013; US 2000241785 20001020; US 2000241809 20001020; US 2000240960 20001020; US 2000241787 20001020; US 2000241808 20001020; US 2000241221 20001020; US 2000241786 20001020; US 2000241826 20001020; US 2000244617 20001101; US 2000246474 20001108; US 2000246532 20001108; US 2000246476 20001108; US 2000246526 20001108; US 2000246475 20001108; US 2000246525 20001108; US 2000246528 20001108; US 2000246527 20001108; US 2000246477 20001108; US 2000246611 20001108; US 2000246610 20001108; US 2000246613 20001108; US 2000246609 20001108; US 2000246478 20001108; US 2000246524 20001108; US 2000246523 20001108; US 2000249299 20001117; US 2000249210 20001117; US 2000249216 20001117; US 2000249217 20001117; US 2000249211 20001117; US 2000249215 20001117; US 2000249218 20001117; US 2000249208 20001117; US 2000249213 20001117; US 2000249212 20001117; US 2000249207 20001117; US 2000249245 20001117; US 2000249244 20001117; US 2000249297 20001117; US 2000249214 20001117; US 2000249264 20001117; US 2000249209 20001117; US 2000249300 20001117; US 2000249265 20001117; US 2000250391 20001201; US 2000250160 20001201; US 2000256719 20001205; US 2000251030 20001205; US 2000251988 20001205; US

2000251479 20001206; US 2000251869 20001208; US 2000251856 20001208; US
2000251868 20001208; US 2000251990 20001208; US 2000251989 20001208; US
2000254097 20001211; US 2001259678 20010105
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 178265

Fulltext Availability:
Detailed Description

Detailed Description
... such that 48 of those nucleotides were in the same order as found in
the **Query** sequence.@ If **all** of the **matches** that met this criteria
were in the same UniGene **cluster** , and mapping data was available for
this **cluster** , it is indicated in Table IA under the heading "Cytologic
Band". Where a cluster had...

18/3,K/19 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00777958 **Image available**
RETRIEVING IMAGES BY DEFINING AN IMAGE CONTENT COMPRISING OBJECTS
EXTRACTION D'IMAGE EN FONCTION DE L'OBJET
Patent Applicant/Assignee:
ALMEN LABORATORIES INC, 2105 Miller Avenue, Escondido, CA 92025, US, US
(Residence), US (Nationality)
Inventor(s):
GALPERIN Michael, 2105 Miller Avenue, Escondido, CA 92025, US,
Legal Representative:
KAISER AnneMarie (agent), 16th floor, 620 Newport Center Drive, Newport
Beach, CA 92660, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200111489 A2-A3 20010215 (WO 0111489)
Application: WO 2000US21735 20000809 (PCT/WO US00021735)
Priority Application: US 99370366 19990809
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
AE AG AL AM AT (utility model) AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU
CZ (utility model) CZ DE (utility model) DE DK (utility model) DK DM DZ
EE (utility model) EE ES FI (utility model) FI GB GD GE GH GM HR HU ID IL
IN IS JP KE KG KP KR (utility model) KR KZ LC LK LR LS LT LU LV MA MD MG
MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK (utility model) SK SL TJ
TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 11614

Main International Patent Class: **G06F-017/30**
Fulltext Availability:
Detailed Description

Claims

Detailed Description
... an output and an image display device receiving the filtered image output from the image **filter** . An input device provides input parameters for modifying a filtering function performed by the image...

...whereby an image appearing on the image display device is updated substantially continuously as the **filtering** function is modified. In this embodiment, the system also includes a database of images and an image comparison module configured to compare the **filtered** image output with images in the database and to select images in the database which are similar to the **filtered** image output. **Filtering** and image enhancement processes can be automatic and use system calculated default parameters.

In another...

...said plurality of parameters for objects in the image database so as to produce a **set** of parameter vectors, deriving a **set** of weights from the calculated **set** of parameter **vectors** , wherein **each** weight is **associated** with a corresponding one of the plurality of parameters.

A parameter **vector** comprising the plurality of parameters for an object or **cluster** of objects in said query image is calculated, and a weighted comparison and/or classification...

Claim
... an input and a filtered image as an output; an image display device receiving said **filtered** image output from said image filter;
an input device providing input parameters for modifying a...

...in said image database so as to produce a set of parameter vectors; deriving a **set** of weights from said calculated **set** of parameter **vectors** , wherein each weight is **associated** with a corresponding one of said plurality of parameters; calculating a parameter **vector** comprising said plurality of parameters for an
object in said query image; and
performing a...

...parameters for a cluster of objects in said image database so as to produce a **set** of parameter vectors; deriving a **set** of weights from said calculated **set** of parameter **vectors** , wherein **each** weight is **associated** with a corresponding one of said plurality of parameters; calculating a parameter **vector** comprising said plurality of parameters for a a
cluster of objects in said query image; and
performing a weighted comparison between said a cluster...

18/3,K/20 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00577687 **Image available**
METHOD OF ANALYZING, ORGANIZING AND VISUALIZING CHEMICAL DATA WITH FEATURE HIERARCHY
PROCEDE POUR ANALYSER, ORGANISER ET VISUALISER DES DONNEES CHIMIQUES AVEC HIERARCHIE DES PARAMETRES
Patent Applicant/Assignee:
COLUMBUS MOLECULAR SOFTWARE INC,
Inventor(s):
BLOWER Paul E Jr,
JOHNSON Wayne P,
MYATT Glenn J,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200041060 A1 **20000713** (WO 0041060)

Application: WO 2000US111 20000104 (PCT/WO US0000111)
Priority Application: US 99224976 19990104
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 11545

Patent and Priority Information (Country, Number, Date):
Patent: ... **20000713**
Main International Patent Class: **G06F-003/00**
Fulltext Availability:
Detailed Description
Claims
Publication Year: **2000**

Detailed Description
... vector that designates the substances that fall in said property category; (b) constructing a property **filter** vector corresponding to the property control settings; (c) constructing a composite property bit I 0
vector that designates the **set** of substances which satisfy all property restrictions; (d) **associating** with **each** structural feature a bit **vector** that designates the substances containing said feature; and (e) constructing the bit vector that designates...

...steps of. (a) applying the steps of methods M2 resulting in a composite property bit **vector** and several structural feature bit **vectors** ; (b) **associating** with **each** activity category a bit **vector** that designates the substances that fall in said activity category; (c) constructing a **set** of I 0 activity-property bit vectors which partition the set of substances which satisfy...

Claim
... structural Feature and property constraints, said method comprising the steps of (a) for each property, **associating** with **each** property value range a bit **vector** Pij such that, for **all** I < k < N@ the kth bit is set to one if the kth substance in...

...which satisfy all property restrictions, by computing a bitwise logical AND over all Pi; (d) **associating** with **each** structural Feature a bit **vector** Si such that the kth bit is **set** to one if the kth substance in the underlying set contains the Feature, and zero...

...satisfying given property constraints according to claim 12, said method comprising the steps of (a) **associating** with **each** activity category a bit **vector** Aj such that for **all** I < k < N, the kth bit is set to one if the kth substance in...

18/3,K/21 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00563529 **Image available**
APPARATUS AND METHOD FOR IMPROVED MEMORY AND RESOURCE MANAGEMENT IN A SINGLE-USER OR MULTI-USER SPEECH RECOGNITION SYSTEM
APPAREIL ET PROCEDE DESTINES A UNE MEILLEURE GESTION DE LA MEMOIRE ET DES RESSOURCES DANS UN SYSTEME DE RECONNAISSANCE VOCALE A UTILISATEUR UNIQUE OU A UTILISATEURS MULTIPLES
Patent Applicant/Assignee:
SYVOX CORPORATION,

Inventor(s):
LAURENCE John J,
NELSON Kevin A,
PEREZ-MENDEZ Ivan,
TRAWICK David J,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200026902 A1 **20000511** (WO 0026902)
Application: WO 99US26143 19991104 (PCT/WO US9926143)
Priority Application: US 98185784 19981104
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 7989

Patent and Priority Information (Country, Number, Date):
Patent: ... **20000511**
Fulltext Availability:
Detailed Description
Publication Year: **2000**

Detailed Description
... the amplitudes of the input digital electrical signal in several frequency bands (often called a **filter** bank representation). The physical features of a frame determined by a digital signal processor are ...

...sequence of feature vectors created by the digital signal processor will be compared to a **set** of protot)Te feature **vectors** to determine which of the prototype **feature vectors each feature vector matches** most closely.

This comparison process is often referred to as **vector** quantization. The **set** of prototype feature vectors is usually predetermined and finite. For example, there may be 250...

18/3,K/22 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00529071 **Image available**
ADAPTIVE SEISMIC NOISE AND INTERFERENCE ATTENUATION METHOD
ATTENUATION ADAPTATIVE DES BRUITS ET INTERFERENCES D'ORIGINE SISMIQUE
Patent Applicant/Assignee:
SCHLUMBERGER HOLDINGS LIMITED,
SCHLUMBERGER CANADA LIMITED,
SERVICES PETROLIERS SCHLUMBERGER,
oZBEK Ali,
Inventor(s):
oZBEK Ali,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9960423 A1 **19991125**
Application: WO 99GB1582 19990518 (PCT/WO GB9901582)
Priority Application: GB 9810708 19980520
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 10069

Patent and Priority Information (Country, Number, Date):
  Patent: ... **19991125**
Fulltext Availability:
  Detailed Description
Publication Year: **1999**

Detailed Description
... Al C)are then all real valued.

  The above described expansion of the projected steering **vectors** d-(f; k) is **analogous** to the Karhunen-L6eve expansion. While the original Karhunen-L6eve expansion is for a random **vector** , the expansion presented here is for a deterministic **set** of vectors. This is reflected in the way the approximation error functional @t, is defined, cf. [32] .

  The covariance matrix of steering **vectors** , similar to the **correlation** matrices defined in [331 was first introduced in by K.M. Buckley, IEEE Trans. Acoust...

...qdl
  which defines the first column of the constraint matrix;
  - specification of the signal protection **region** A in the frequency-wavenumber space;
  - computation of EA-, the **correlation** matrix of **all** the projected steering **vectors** in **region** A; and
  - determination of the principal eigenvectors {v,,,. ., v,,,) of EAas the remaining columns of...

...the desired quiescent weight vector to form
  a desired quiescent response is essentially a non- **adaptive** multidimensional **filter** design problem, for which many techniques exist. Reference can be made for example to handbooks...

18/3,K/23 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00514145 **Image available**
SYSTEM FOR ELIMINATING OR REDUCING EXEMPLAR NOISE EFFECTS (SERENE)
SYSTEME D'ELIMINATION OU DE REDUCTION D'EFFETS DE BRUIT TYPIQUE (SERENE)
Patent Applicant/Assignee:
  THE GOVERNMENT OF THE UNITED STATES OF AMERICA as;represented by THE SECRETARY OF THE NAVY,
Inventor(s):
  PALMADESSO Peter J,
  BAUMBACK Mark M,
  GROSSMAN John M,
  ANTONIADES John A,
  BOWLES Jeffrey A,
  HAAS Daniel G,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9945497 A1 **19990910**
  Application: WO 99US626 19990111 (PCT/WO US9900626)
  Priority Application: US 9835909 19980306
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
  AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
  HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
  NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
  KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI
  FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD
  TG
Publication Language: English
Fulltext Word Count: 10930

Patent and Priority Information (Country, Number, Date):
  Patent: ... **19990910**
Fulltext Availability:
  Detailed Description
Publication Year: **1999**

Detailed Description
... condition that all of the data vectors be contained within the minimized space is suitable. **Adaptive** learning module 30 generates a set of filter vectors JFi) and endmembers JE1, E, E...

...to figure 10a, find a set of endinembers {EiJ such that each endmember Ei is **matched** to a salient **vector** Si, and is as **close** as possible to its salient, subject to the condition that all the data vectors are...
...general satisfy the shrink wrapping constraints see figure lob. Find a new set of Filter **vectors** f Fil such that each Filter **vector** Fi is **matched** to a salient Filter **vector** F,i, and is as **close** as possible to its salient filter, subject to the condition that all the data **vectors** are inside the hypertriangle. Le., minimize
C = (Fi-Fsi)2
5
subject to the constraints...The decoupling of the individual filter vector calculations increases computational efficiency. Manipulation of the Filter **vectors** instead of the endmember **vectors** is **equivalent** to manipulating the plane faces of the triangle instead of the vertices.

18
6 T...

18/3,K/24 (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00514140
COMPRESSION OF HYPERDATA WITH ORASIS MULTISEGMENT PATTERN SETS (CHOMPS)
COMPRESSION D'HYPERDONNEES AVEC DES ENSEMBLES DE STRUCTURE MULTISEGMENT ORASIS (CHOMPS)
Patent Applicant/Assignee:
  THE GOVERNMENT OF THE UNITED STATES OF AMERICA as;represented BY THE SECRETARY OF THE NAVY,
Inventor(s):
  ANTONIADES John A,
  BAUMBACK Mark M,
  BOWLES Jeffrey A,
  GROSSMANN John M,
  HAAS Daniel G,
  PALMADESSO Peter J,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9945492 A2 **19990910**
  Application: WO 99US627 19990111 (PCT/WO US9900627)
  Priority Application: US 9835909 19980306
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
  AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
  HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
  NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
  KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI
  FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD
  TG
Publication Language: English
Fulltext Word Count: 10254

Patent and Priority Information (Country, Number, Date):
  Patent: ... **19990910**
Fulltext Availability:

Detailed Description
Publication Year: **1999**

Detailed Description
... following procedures, or variants thereof
Method i
With reference to figure 1 Oa. find a **set** of endmembers f Ei I such that each endmember Ei is **matched** to a salient **vector** -Si, and is as **close** as possible to its salient, subject to the condition that all the data **vectors** are inside the hypertriangle with vertices JEiJ. Le., minimize
ND
C=E (E
S) 2...

...will not, in general satisfy the shrink wrapping constraints see figure lob. Find a new **set** of Filter **vectors** f Fil such that **each** Filter **vector** Fi is **matched** to a salient Filter **vector** F,i, and is as **close** as possible to its salient filter, subject to the condition that all the data **vectors** are inside the hypertriangle. Le., minimize is C = (Fi-Fsi)'
subject to the constraints Fi...

18/3,K/25 (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00465473 **Image available**
NON-LINEAR VECTOR FILTERING METHOD AND DEVICE
PROCEDE ET DISPOSITIF DE FILTRAGE VECTORIEL NON-LINEAIRE
Patent Applicant/Assignee:
FRANCE TELECOM,
TELEDIFFUSION DE FRANCE,
SIOHAN Pierre,
LUCAT Laurent,
Inventor(s):
SIOHAN Pierre,
LUCAT Laurent,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9855938 A1 **19981210**
Application: WO 98FR1095 19980529 (PCT/WO FR9801095)
Priority Application: FR 977382 19970606
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
CA US AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: French
Fulltext Word Count: 6309
Patent and Priority Information (Country, Number, Date):
Patent: ... **19981210**
Main International Patent Class: **G06F-017/10**

English Abstract
The invention concerns a non-linear **vector** filtering method a non-linear **vector** filtering method and its corresponding device using a measurement **associated** with said source **vector** a sum of **distances** of said source **vector** with each **vector** of said **set** of source **vectors** to be considered, weighted by weighting coefficients w assigned to each of said source vectors...

...dimension: the product of said vector source component with the sum of weighting coefficients w **associated** with the rg first **vectors** according to said ordering in said dimension; and/or the sum of rg first components...
Publication Year: **1998**

18/3,K/26 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00459366 **Image available**
METHOD OF ESTIMATION OF MOTION BETWEEN IMAGES
PROCEDE D'ESTIMATION DU DEPLACEMENT ENTRE IMAGES
Patent Applicant/Assignee:
KONINKLIJKE PHILIPS ELECTRONICS N V,
PHILIPS AB,
JEANNIN Sylvie,
Inventor(s):
JEANNIN Sylvie,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9849830 A2 **19981105**
Application: WO 98IB424 19980323 (PCT/WO IB9800424)
Priority Application: WO 98IB424 19980323
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
JP US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 7166

Patent and Priority Information (Country, Number, Date):
Patent: ... **19981105**
Fulltext Availability:
Detailed Description
Publication Year: **1998**

Detailed Description
... the motion parameters, for performing the third step 30 by an approximated determination of the **vector** (Dx,Dy) **associated** with **each region** . These second and third stages 842 and 843 are provided in a loop in accordance...

...of a given criterion (in this case, the intermediate processing operation comprises an isotropic Gaussian **filtering** operation intended to accelerate the convergence of this **iterative** process). It can be also indicated that a particularly important use of this motion estimation...

18/3,K/27 (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00456597
DATA PROCESSING SYSTEM AND METHOD FOR DETERMINING AND ANALYZING CORRESPONDENCE INFORMATION FOR A STEREO IMAGE
SYSTEME ET PROCEDE DE TRAITEMENT DES DONNEES
Patent Applicant/Assignee:
INTERVAL RESEARCH CORPORATION,
Inventor(s):
WOODFILL John Iselin,
BAKER Henry Harlyn,
VON HERZEN Brian,
ALKIRE Robert Dale,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9847061 A2 **19981022**
Application: WO 98US6675 19980402 (PCT/WO US9806675)
Priority Application: US 97839767 19970415
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AT AU AZ BA BB BG BR BY CA CH CN CU CZ CZ DE DE DK DK EE EE ES
FI FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK SL TJ TM TR TT UA

UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT
BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA
GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 80157

Patent and Priority Information (Country, Number, Date):
Patent: ... **19981022**
...International Patent Class: **G06F-017/15**
Fulltext Availability:
Detailed Description
Publication Year: **1998**

Detailed Description
... more relat ed data sets; (2) utilize a transform operation on data in both data **sets** , the transform operating to characterize data elements according to their relationship with other data elements in the same data **set** ; (3) use the transformed characterization to **correlate** data elements in one data set with data elements in the other data set; (4) **filter** the results in a manner designed to screen out results which appear anomalous or which...
...pipelined fashion. The systolic nature of the algorithm promotes efficiency and speed. Thus, the census **vectors** (or the **correlation** window) in one image are **correlated** with each of their respective disparity-shifted census **vectors** (or the **correlation** window) in the other image in a parallel and pipelined manner. At the same time...would result in Hamming distances in the range from 0 to 32, with a Hamming **distance** of 0 representing two census **vectors** which are identical, while a Hamming **distance** of 32 representing two census **vectors** in which **every** single bit position is different.

Since the Hamming **distances** will be used to determine census **vectors** which **match** as closely as is possible, it may be possible to increase computational efficiency by treating...

...rather than six) and computational resources without sacrificing quality.

F. MOVING WINDOW SUMS AND BOX **FILTERING** .

In the simplest embodiment, each pixel in the reference image is compared to a specified...

18/3,K/28 (Item 14 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00452578
SPECTRAL BIO-IMAGING METHODS FOR CELL CLASSIFICATION
PROCEDES DE BIO-IMAGERIE SPECTRALE POUR LA CLASSIFICATION DE CELLULES
Patent Applicant/Assignee:
APPLIED SPECTRAL IMAGING LTD,
CABIB Dario,
BUCKWALD Robert A,
MALIK Zvi,
BEN-YOSEF Nissim,
Inventor(s):
CABIB Dario,
BUCKWALD Robert A,
MALIK Zvi,
BEN-YOSEF Nissim,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9843042 A1 **19981001**
Application: WO 98US4867 19980316 (PCT/WO US9804867)
Priority Application: US 97824234 19970325
Designated States:
(Protection type is "patent" unless otherwise stated - for applications

prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH
GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI
FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 20268

Patent and Priority Information (Country, Number, Date):
Patent: ... **19981001**
Fulltext Availability:
Detailed Description
Publication Year: **1998**

Detailed Description
... the pixels of the object. One of the objectives of looking at such a data **set** can be the characterization of the pixels into groups of **similar** spectra. Regard **each** spectral slice as a **vector** whose elements are the image pixels arranged into the column vector using a predetermined code...is selected, the coupling weights and biases of eacli neuron are chosen randomly. The input **vectors** in the training **set** are transferred through the network and the Euclidean **distance** between the input **vectors** and the corresponding output **vectors** in the training **set** are calculated. The variable consists the sum of the squared **distances** , the sum being over **all** **vectors** in the training **set** and is a function of all the neuron parameters. Using known numerical iterative techniques, a...

18/3,K/29 (Item 15 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00412381 **Image available**
INTELLIGENT HYPERSENSOR PROCESSING SYSTEM (IHPS)
SYSTEME INTELLIGENT DE TRAITEMENT A HYPERDETECTEURS (IHPS)
Patent Applicant/Assignee:
THE GOVERNMENT OF THE UNITED STATES OF AMERICA as represented by THE SECRETARY OF THE NAVY,
Inventor(s):
PALMADESSO Peter J,
ANTONIADES John A,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9802842 A1 **19980122**
Application: WO 97US6795 19970421 (PCT/WO US9706795)
Priority Application: US 96679085 19960712
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AU CA IL JP KR AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 6522

Patent and Priority Information (Country, Number, Date):
Patent: ... **19980122**
Fulltext Availability:
Detailed Description
Publication Year: **1998**

Detailed Description
... condition that all of the data vectors be contained within the minimized space is suitable.

Adaptive learning module 30 generates a set of filter vectors IFJ and endmembers (El@ E, E3 endmembers 1EJ1 such that each endmernber E, is **matched** to a salient **vector** S,. and is as **close** as possible to its salient.

sub.ect to the condition that all the data vectors...

...general satisfy the shrink wrapping constraints see figure 10b. Find a new set of Filter **vectors** @F,l such that each Filter **vector** F, is **matched** to a salient Filter **vector** F,,, and is as **close** as possible to its salient filter. subject to the condition that all the data **vectors** are inside the hypertriangle. Le.,
minimize
C = (Fi-Fsf
subject to the constraints F, e...

...The decoupling of the individual filter vector calculations increases computational efficiency. Manipulation of the Filter **vectors** instead of the endmember **vectors** is **equivalent** to manipulating the plane faces of the triangle instead of the vertices.

```
File   8:Ei Compendex(R) 1970-2004/Nov W4
         (c) 2004 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2004/Nov
         (c) 2004 ProQuest Info&Learning
File 202:Info. Sci. & Tech. Abs. 1966-2004/Nov 02
         (c) 2004 EBSCO Publishing
File  65:Inside Conferences 1993-2004/Dec W1
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File  94:JICST-EPlus 1985-2004/Oct W5
         (c)2004 Japan Science and Tech Corp(JST)
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File 144:Pascal 1973-2004/Nov W4
         (c) 2004 INIST/CNRS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Dec W1
         (c) 2004 Inst for Sci Info
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Oct
         (c) 2004 The HW Wilson Co.
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File 438:Library Lit. & Info. Science 1984-2004/Oct
         (c) 2004 The HW Wilson Co
File  62:SPIN(R) 1975-2004/Oct W1
         (c) 2004 American Institute of Physics
File 239:Mathsci 1940-2004/Jan
         (c) 2004 American Mathematical Society

Set     Items   Description
S1      16240   (QUERY OR FEATURE OR INPUT)(1W)VECTOR? ?
S2       2304   S1(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NE-
             AR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR
             COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S3     127022   FILTER???(10N)(ITERAT? OR ADAPTIV? OR LEVEL? ? OR TIER?? OR
              STAGE? ? OR PHASE? ?)
S4         26   (NEAREST OR CLOSEST)(1W)CANDIDATE? ?
S5       7012   (REGION? ? OR AREA? ? OR CLUSTER? ? OR GROUP? ? OR SET? ?)-
             (7N)VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENE-
             SS OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALO-
             GOUS? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S6      56772   (NEAREST OR CLOSEST)(1W)NEIGHBOR???
S7       2423   ((ALL OR EVERY OR ENTIRE OR EACH)(5N)VECTOR? ?)(7N)(SIMILA-
             R? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NEAR???? OR PROXIM?
              OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR COMPARABLE OR CO-
             RRELAT? OR ASSOCIAT?)
S8          0   S2 AND S3 AND S4:S5 AND S6:S7
S9          7   S2 AND FILTER??? AND S4:S5 AND S6:S7
S10     51724   VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS
              OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGO-
             US? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S11         5   S10 AND S3 AND S4:S5 AND S6:S7
S12        41   S10 AND FILTER??? AND S4:S5 AND S6:S7
S13        41   S9 OR S11 OR S12
S14        10   S2 AND S3 AND S4:S7
S15        51   S13:S14
S16        32   RD (unique items)
S17        24   S16 NOT PY=2001:2004
```

17/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05722798 E.I. No: EIP00125424098
Title: Merging regions based on the VDM distance
Author: Abad, F.; Garcia-Consuegra, J.; Cisneros, G.
Corporate Source: Universidad de Castilla-La Mancha, C. Real, Spain
Conference Title: 2000 International Geoscience and Remote Sensing Symposium (IGARSS 2000)
Conference Location: Honolulu, HI, USA Conference Date: 20000724-20000728
E.I. Conference No.: 57637
Source: International Geoscience and Remote Sensing Symposium (IGARSS) v 2 2000. IEEE, Piscataway, NJ, USA,00CB37120. p 615-617
Publication Year: 2000
CODEN: IGRSE3
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); T ; (Theoretical)
Journal Announcement: 0101W3
Abstract: In a per-object classification system, many authors have advised a two-step process: First by obtaining small, homegeneous objects, second by merging those regions. In this paper, we present a new method to decide whether two regions belong to the same class or not. An extension of Chang and Li's method of adaptive region-growing is proposed, in order to take into account the case of multiband images. **Region** dispersion is calculated by means of the **Vector** Degree of **Match** (VDM) **distance** , proposed by Baraldi and Parmiggiani. This **distance** measures the **similarity** degree of two n-dimensional **vectors** . **Each** intra- **region similarity** is computed and then compared with other **regions** . Instead of defining a **similarity** degree fixed threshold, obtained by a trial and error process, we propose an adaptive one based on a global percentage similarity. In short, this work proposes a reduction of the features space into a one-dimensional space which measures the similarity by a non-parametric criterion, thereby avoiding the determination of the density function problem. (Author abstract) 6 Refs.
Descriptors: *Remote sensing; **Adaptive filtering** ; Image analysis; Image quality; **Vector** quantization; Error analysis; Pattern **matching** ; Data reduction; Computational methods
Identifiers: Per-object classification systems; Multiband images
Classification Codes:
731.1 (Control Systems); 723.2 (Data Processing); 921.1 (Algebra); 921.6 (Numerical Methods); 723.5 (Computer Applications)
731 (Automatic Control Principles); 741 (Optics & Optical Devices); 723 (Computer Software); 921 (Applied Mathematics)
73 (CONTROL ENGINEERING); 74 (OPTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

17/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05214666 E.I. No: EIP99014548208
Title: Design of adaptive **stack** filters **using pattern classification**
Author: Muneyasu, Mitsuji; Yasui, Yoshihiro; Hinamoto, Takao
Corporate Source: Hiroshima Univ, Higashi-Hiroshima, Jpn
Source: Electronics & Communications in Japan, Part III: Fundamental Electronic Science (English translation of Denshi Tsushin Gakkai Ronbunshi) v 82 n 4 Apr 1999. p 38-47
Publication Year: 1999
CODEN: ECJSER ISSN: 1042-0967
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9903W4
Abstract: In this paper, a novel design technique for **adaptive** stack **filters** is proposed. The Boolean function of the proposed **filters** is

selected by the controller based on pattern classification. This controller **associates** an **input vector** with some **cluster** according to its pattern and selects the Boolean function corresponding to the **cluster** . The Boolean functions used in this technique are adjusted by using the adaptive least mean absolute (ALMA) algorithm. As inputs of this controller, both binary and multilevel signals are considered. Finally, a simulation example is given to illustrate the utility of the proposed technique. (Author abstract) 11 Refs.

Descriptors: ***Adaptiv** e **filtering** ; Nonlinear **filtering** ; Digital **filters** ; Pattern recognition; Boolean functions; Vectors; Computer simulation

Identifiers: **Adaptive** stack **filters** ; Order statistics **filters** ; **Adaptive** least mean absolute (ALMA) algorithm

Classification Codes:

731.1 (Control Systems); 716.1 (Information & Communication Theory); 703.2 (Electric Filters); 723.5 (Computer Applications); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 921.1 (Algebra)

731 (Automatic Control Principles); 716 (Radar, Radio & TV Electronic Equipment); 703 (Electric Circuits); 723 (Computer Software); 721 (Computer Circuits & Logic Elements); 921 (Applied Mathematics)

73 (CONTROL ENGINEERING); 71 (ELECTRONICS & COMMUNICATIONS); 70 (ELECTRICAL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

17/5/3 (Item 3 from file: 8)

05115082 E.I. No: EIP98094368812

Title: Unsupervised linear unmixing Kalman filtering **approach to signature extraction and estimation for remotely sensed imagery**

Author: Brumbley, Clark; Chang, Chein-I

Corporate Source: Univ of Maryland Baltimore County, Baltimore, MD, USA

Conference Title: Proceedings of the 1998 IEEE International Geoscience and Remote Sensing Symposium, IGARSS. Part 3 (of 5)

Conference Location: Seattle, WA, USA Conference Date: 19980706-19980710

Sponsor: IEEE

E.I. Conference No.: 48917

Source: International Geoscience and Remote Sensing Symposium (IGARSS) v 3 1998. IEEE, Piscataway, NJ, USA,98CH36174. p 1590-1592

Publication Year: 1998

CODEN: IGRSE3

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T ; (Theoretical)

Journal Announcement: 9811W1

Abstract: Linear Unmixing Kalman **Filtering** (LUKF) approach was recently developed which incorporates the concept of linear unmixing into Kalman **filtering** so as to achieve signature abundance estimation, subpixel detection and classification for remotely sensed images. However, LUKF assumes a complete knowledge of the signature matrix used in the linear mixture model. In this paper, the LUKF is extended to an unsupervised LUKF where no knowledge about the signature matrix is required a priori. The unsupervised learning method proposed for the ULUKF is derived from a **vector** quantization-based clustering algorithm. It employs a **nearest - neighbor** rule to **group** potential signatures resident within an image scene into a class of distinct clusters whose centers represent different types of signatures. These clusters' centers are then used as if they were true signatures in the signature matrix LUKF. In order to evaluate the effectiveness of ULUKF, HYDICE images were used for assessment. The results produced by ULUKF show that subpixel detection and classification can be performed. (Author abstract) 6 Refs.

Descriptors: *Remote sensing; Image processing; Kalman **filtering** ; Feature extraction; Vector quantization; Mathematical models; Algorithms; Learning systems; Classification (of information); Signal detection

Identifiers: Linear unmixing Kalman **filtering** ; Signature extraction; Signature abundance estimation
Classification Codes:
481.4 (Geophysical Prospecting); 723.2 (Data Processing); 716.1 (Information & Communication Theory); 741.1 (Light/Optics); 921.1 (Algebra); 921.6 (Numerical Methods)
481 (Geology & Geophysics); 723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment); 741 (Optics & Optical Devices); 921 (Applied Mathematics)
48 (ENGINEERING GEOLOGY); 72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS)

17/5/4 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04081721 E.I. No: EIP95022579467
Title: LMMSE polarimetric Wishart vector speckle filter for multilook data and the LMMSE spatial vector filter for correlated pixels in SAR images
Author: Lopes, Armand; Sery, Franck
Corporate Source: Universite Paul Sabatier, Toulouse, Fr
Conference Title: Proceedings of the 1994 International Geoscience and Remote Sensing Symposium. Vol 4 (of 4)
Conference Location: Pasadena, CA, USA Conference Date: 19940808-19940812
Sponsor: IEEE; URSI; OSA; NASA; ONR; et al
E.I. Conference No.: 42381
Source: International Geoscience and Remote Sensing Symposium (IGARSS) v 4 1994. IEEE, Piscataway, NJ, USA,94CH3378-7. p 2143-2145
Publication Year: 1994
CODEN: IGRSE3
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); T ; (Theoretical)
Journal Announcement: 9504W4
Abstract: The LMMSE vector speckle filters for full polarimetric multilook SAR data and for single channel SAR images using pixels's spatial correlation are presented. Both are based on the multiplicative speckle model. In the multilook polarimetric filter, the joint distribution of the elements of the sample covariance matrix of the speckle vector is assumed to be a complex Wishart distribution. The Wishart pdf parameters are the look number L and six complex degrees of coherence. The filter output is a despeckled polarimetric feature vector from which a despeckled covariance matrix or Stokes operator matrix can be computed. For usual detected intensity images, the underlying radar reflectivity and the speckle intensity are assumed to be each a spatially **correlated** random variable. The **input vector** is an N dimensionnal vector whose components are the values of N pixels. Compared with the usual scalar isotropic **adaptive** filters, the **vector filter** allows a better smoothing of textured **areas** by taking into account the spatial **correlation** of the speckle and of the scene in various directions. (Author abstract) 10 Refs.
Descriptors: *Radar imaging; Synthetic aperture radar; Vectors; Mathematical models; Speckle; Polarimeters; Optical correlation; Matrix algebra; Computational methods; Radar reflection
Identifiers: Polarimetric Wishart vector speckle filter; Multilook data; Spatial vector filter; Correlated pixels; Wishart distribution; Covariance matrix; Stokes operator matrix; Radar reflectivity; Speckle intensity; Linear minimum mean square error (LMMSE)
Classification Codes:
741.3 (Optical Devices & Systems); 716.2 (Radar Systems & Equipment); 921.1 (Algebra); 921.6 (Numerical Methods); 741.1 (Light/Optics); 941.3 (Optical Instruments)
741 (Optics & Optical Devices); 716 (Radar, Radio & TV Electronic Equipment); 921 (Applied Mathematics); 941 (Acoustical & Optical Measuring Instruments)

74 (OPTICAL TECHNOLOGY); 71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS); 94 (INSTRUMENTS & MEASUREMENT)

17/5/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04038557 E.I. No: EIP95012507257
Title: Fast LSP vector quantization algorithms comparison
Author: Naja, N.; Boucher, J.M.; Saoudi, S.
Corporate Source: ENST-Br, Brest, Fr
Conference Title: Proceedings of the 7th Mediterranean Electrotechnical Conference - MELECON. Part 3 (of 3)
Conference Location: Antalya, TURKEY Conference Date: 19940412-19940414
Sponsor: IEEE; Middle East Technical University; Bilkent University; Chamber of Electrical Engineers of Turkey
E.I. Conference No.: 42119
Source: Mediterranean Electrotechnical Conference - MELECON 3 (of 3 1994. IEEE, Piscataway, NJ, USA,94CH3388-6. p 1127-1130
Publication Year: 1994
CODEN: 001676
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 9503W3
Abstract: The line Spectrum Pairs (LSP) provide an efficient representation of the synthesis **filter** used in linear Predictive Coding of speech. In this paper, an attempt to find the best **distance** measure for **Vector** Quantization is carried out, in the first place, by making objective studies over the same training sequence. Lastly, fast VQ algorithms of the LSP parameters are compared in terms of complexity, using the Euclidean distance measure. The well-known ordering property of LSP parameters is exploited to improve the efficiency of minimum distortion encoder for VQ in terms of norm associated to its distance. As conventional full search is too complex for practical implementation, the originality of this work consists in using the norm to limit the size of the **area** which contains the **nearest neighbor** of an **input vector** to be quantized. This method results in a substantial reduction in search complexity with only a minor degradation in terms of average spectral distortion. (Author abstract) 11 Refs.
Descriptors: *Algorithms; Speech coding; Computational complexity; **Vectors** ; Acoustic distortion; Sorting; **Distance** measurement; Integration ; Speech analysis; Mathematical models
Identifiers: Line spectrum pairs; **Vector** quantization; Linear predictive coding; Synthesis **filter** ; Euclidean **distance** measure; Spectral distortion; Linear predictive coding analysis; Acoustic tube model
Classification Codes:
921.6 (Numerical Methods); 751.5 (Speech); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 921.1 (Algebra); 751.1 (Acoustic Waves); 723.2 (Data Processing)
921 (Applied Mathematics); 751 (Acoustics); 721 (Computer Circuits & Logic Elements); 723 (Computer Software)
92 (ENGINEERING MATHEMATICS); 75 (ACOUSTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING)

17/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03108004 E.I. Monthly No: EIM9108-040034
Title: Biomedical image segmentation using multiscale orientation fields.
Author: Low, Kah-Chan; Coggins, James M.
Corporate Source: Comput Sci Dept, Univ of North Carolina, Chapel Hill, NC, USA
Conference Location: Atlanta, GA, USA Conference Date: 19900522
Sponsor: IEEE Computer Soc; IEEE Engineering in Medicine & Biology Soc;

Georgia Inst of Technology; Emory Univ School of Medicine; AEMB; AAPM
E.I. Conference No.: 14754
Source: Proceedings of the First Conference on Visualization in Biomedical Computing Proc First Conf Visualization Biomed Comput VBC 90. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA (IEEE cat n 90TH0311-1). p 378-384
Publication Year: 1990
ISBN: 0-8186-2039-0
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); T; (Theoretical); X; (Experimental)
Journal Announcement: 9108
Abstract: An algorithm for labeling image regions based on pixel-level statistical pattern recognition is presented. The structure of multiscale regions about each pixel is measured by means of isotropic Gaussian filters and by a multiscale orientation field. A redundant feature space representing several aspects of image structure across scale, orientation, and space is created. The segmentation algorithm decides membership of pixels in **regions** by means of simple statistical pattern recognition methods, such as **distance** measurement and thresholding. **Feature vectors** are examined locally to determine **region** membership; the features incorporate multiscale image structure information. Results of multiscale image segmentations on biomedical images are presented. 5 Refs.
Descriptors: *IMAGE PROCESSING--*Image Analysis; SIGNAL FILTERING AND PREDICTION; PATTERN RECOGNITION; MATHEMATICAL STATISTICS; REDUNDANCY; MAGNETIC RESONANCE IMAGING
Identifiers: BIOMEDICAL IMAGE SEGMENTATION; PIXEL- **LEVEL** STATISTICAL PATTERN RECOGNITION; ISOTROPIC GAUSSIAN **FILTERS** ; MRI IMAGES; RETINAL PHOTOGRAPH; NERVE FIBER CROSS-SECTION
Classification Codes:
723 (Computer Software); 741 (Optics & Optical Devices); 731 (Automatic Control Principles); 922 (Statistical Methods); 461 (Biotechnology)
72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY); 73 (CONTROL ENGINEERING); 92 (ENGINEERING MATHEMATICS); 46 (BIOENGINEERING)

17/5/7 (Item 7 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01408721 E.I. Monthly No: EI8312106534 E.I. Yearly No: EI83104090
Title: MULTICRITERIA ANALYSIS OF WATER ALLOCATION IN A RIVER BASIN: THE TCHEBYCHEFF APPROACH.
Author: Greis, Noel P.; Wood, Eric F.
Corporate Source: Princeton Univ, Dep of Civil Engineering, Princeton, NJ, USA
Source: Water Resources Research v 19 n 4 Aug 1983 p 865-875
Publication Year: 1983
CODEN: WRERAQ ISSN: 0043-1397
Language: ENGLISH
Journal Announcement: 8312
Abstract: A new interactive multiple objective methodology is applied to the seasonal water allocation problem. Linear optimization and **filtering** procedures are combined within a multiobjective framework in order to identify nondominated solutions **associated** with randomly sampled criteria **vectors** . The procedure samples from the **entire** nondominated **set** , not just the **set** of nondominated extreme points, by computing the nondominated criteria **vector** that is closest to an ideal criteria vector according to a weighted Tchebycheff metric. The procedure is applied to the problem of water allocation in a river basin where a large number of conflicting objectives, including environmental objectives, compete for the available supply. Refs.
Descriptors: *WATER RESOURCES--*Management; RIVER BASIN PROJECTS; ECONOMICS; STATISTICAL METHODS; MATHEMATICAL PROGRAMMING, LINEAR
Classification Codes:
444 (Water Resources); 446 (Waterworks); 922 (Statistical Methods)
44 (WATER & WATERWORKS ENGINEERING); 92 (ENGINEERING MATHEMATICS)

17/5/8 (Item 8 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

00982575 E.I. Monthly No: EI8101004144 E.I. Yearly No: EI81046993
Title: ADAPTIVE **NONLINEAR IMAGE RESTORATION BY A MODIFIED KALMAN** FILTERING **APPROACH.**
Author: Rajala, Sarah A.; de Figueiredo, Rui J. P.
Corporate Source: NC State Univ, Raleigh
Source: Rec IEEE Int Conf Acoust Speech Signal Process ICASSP 80, Proc, v 2, Denver, Colo, Apr 9-11 1980. Publ by IEEE (Cat n 80CH1559-4), Piscataway, NJ, 1980 p 414-417
Publication Year: 1980
CODEN: RIIPDR
Language: ENGLISH
Journal Announcement: 8101
Abstract: An **adaptive** nonlinear Kalman-type **filter** is presented for the restoration of two-dimensional images degraded by general image formation system degradations and additive white noise. A vector difference equation model is used to represent the degradation process. Due to the nonstationarity of an image the object plane distribution function, i. e. the original image, is partitioned into disjoint regions based on the amount of spatial activity in the image. Difference equation models are used to characterize each of the regions of this nonstationary object plane distribution function. Features of the restoration **filter** include the ability to account for the response of the human visual system to additive noise in the image; a two-dimensional interpolation scheme to improve the estimates of the initial states in each **region** ; and a **nearest neighbor** algorithm to choose the previous state **vector** for the state of pixel (i,j). 10 refs.
Descriptors: *IMAGE PROCESSING; SIGNAL **FILTERING** AND PREDICTION--Kalman **Filtering**
Identifiers: IMAGE RESTORATION
Classification Codes:
723 (Computer Software); 731 (Automatic Control Principles)
72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

17/5/9 (Item 9 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

00757818 E.I. Monthly No: EI7811085763 E.I. Yearly No: EI78081267
Title: APPLICATION OF NOVELTY FILTER **TO SEGMENTATION OF SPEECH.**
Author: Haltsonen, Seppo; Jalanko, Matti; Bry, Kalle-J; Kohonen, Teuvo
Corporate Source: Helsinki Univ of Technol, Finl
Source: Rec IEEE Int Conf Acoust Speech Signal Process 3rd, Tulsa, Okla, Apr 10-12 1978. Publ by IEEE (78CH1285-6 ASSP), New York, NY p 565-568
Publication Year: 1978
CODEN: RIIPDR
Language: ENGLISH
Journal Announcement: 7811
Abstract: Temporal segmentation of the acoustic waveform into distinct, recognizable units is an unavoidable task in machine recognition of continuous speech. It is demonstrated that a vector space projector named Novelty **Filter** can be used to perform the segmentation of speech into phonemes. A spectral decomposition of the speech waveform, performed by an analog **filter** bank, is continuously analyzed at regular sampling intervals for its degree of " novelty " with respect to a **set** of stationary prototype phonemes. The **distance** of the sampled **vectors** from the subspace spanned by **all** the prototype **vectors** is given by the Novelty **Filter** , and the maxima of this distance then indicate the transition regions between successive phonemes. 5 refs.
Descriptors: *SPEECH--*Recognition; PATTERN RECOGNITION SYSTEMS--Mathematical Models
Classification Codes:

751 (Acoustics); 921 (Applied Mathematics)
75 (ACOUSTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS)

17/5/10 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01850644 ORDER NO: AADAA-I3025750
Fuzzy algorithms for learning vector quantization and their applications
Author: Pai, Pin-I
Degree: Ph.D.
Year: 1996
Corporate Source/Institution: University of Houston (0087)
Adviser: Nicholaos B. Karayiannis
Source: VOLUME 62/09-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 4147. 185 PAGES
Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL
Descriptor Codes: 0544
ISBN: 0-493-37515-5

This dissertation presents the development, testing, and evaluation of fuzzy algorithms for learning vector quantization (FALVQ). The formulation considered in this dissertation combines competitive learning and the fuzzy-theoretic concept of membership. The development of the proposed algorithms is based on the minimization of the weighted sum of the squared Euclidean **distances** between an input **vector** , which represents a **feature vector** , and the weight **vectors** of the LVQ competitive network, which represent the prototypes. The **distances** between **each input vector** and the prototypes are weighted by a **set** of membership functions, which regulate the competition between various prototypes for each input and, thus, determine the strength of attraction between each input and the prototypes during the learning process. The explicit criteria proposed for the selection of membership functions lead to the development of a broad variety of FALVQ algorithms with different behavior and properties. The proposed algorithms are tested, evaluated, and compared with existing learning vector quantization techniques using the IRIS data set. The efficiency of the proposed algorithms is also illustrated by their use in codebook design required for image compression based on vector quantization, and a more sophisticated image compression scheme which employs multiresolution decomposition of images based on a variety of wavelet **filters** . The application on MR image segmentation evaluates a variety of proposed algorithms in terms of their ability to identify different tissues and discriminate between normal tissues and abnormalities.

17/5/11 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01641207 ORDER NO: AAD98-31175
KALMAN FILTERING **AND SUBSPACE PROJECTION APPROACH TO MULTISPECTRAL AND HYPERSPECTRAL IMAGE CLASSIFICATION (REMOTE SENSING)**
Author: BRUMBLEY, CLARK MARISTON
Degree: PH.D.
Year: 1998
Corporate Source/Institution: UNIVERSITY OF MARYLAND BALTIMORE COUNTY (0434)
Director: CHEIN-I CHANG
Source: VOLUME 59/04-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 1776. 127 PAGES
Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL ; REMOTE SENSING
Descriptor Codes: 0544; 0799

Linear unmixing is a widely used remote sensing image processing technique for sub-pixel classification and detection where an image pixel is generally modeled by a linear mixture of spectral signatures of

materials present within the pixel. This approach operates on a pixel by pixel basis and assumes that the image data are stationary and pixel-independent. Unfortunately, this is not true for real data due to varying atmospheric and scattering effects. Kalman **filtering** is one of the most commonly used techniques in communications/signal processing to deal with nonstationary environments in real time processing. This dissertation presents an approach, called Linear Unmixing Kalman **Filtering** (LUKF) which incorporates the concept of linear unmixing into Kalman **filtering** to take advantage of interpixel correlation so as to achieve signature abundance estimation, subpixel detection and classification for remotely sensed images. In this case, the linear mixture model used in linear unmixing is implemented as the measurement equation in Kalman **filtering** . The process equation which is required for Kalman **filtering** , but is absent in linear unmixing, is then used to model the signal.

Since the developed LUKF assumes a complete knowledge of the signature matrix used in the linear mixture model, it is also extended to an unsupervised LUKF where no knowledge about the signature matrix is required a priori. The unsupervised learning method proposed is derived from a **vector** quantization-based clustering algorithm. It employs a **nearest - neighbor** rule to **group** potential signatures resident within an image scene into a class of distinct clusters whose centers represent different types of signatures. These clusters' centers are then used as if they were true signatures in the signature matrix ILUKF. In order to evaluate the effectiveness of ILUKF using these signatures, SPOT and HYDICE images were used for assessment. The results showed that the ILUKF can also effectively detect and classify targets at a pixel scale by nulling interference resulting from unknown signatures.

17/5/12 (Item 3 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

791648 ORDER NO: AAD82-23295
LINEAR AND NONLINEAR APPLICATIONS OF THE TCHEBYCHEFF METRIC TO THE SEASONAL WATER ALLOCATION PROBLEM
Author: GREIS, NOEL PEYTON
Degree: PH.D.
Year: 1982
Corporate Source/Institution: PRINCETON UNIVERSITY (0181)
Source: VOLUME 43/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 1589. 311 PAGES
Descriptors: ENGINEERING, SYSTEM SCIENCE
Descriptor Codes: 0790

A new interactive Tchebycheff procedure is applied to the seasonal water allocation problem in the Delaware River basin. Optimization and **filtering** techniques are combined within the multicriteria framework in order to identify nondominated solutions **associated** with randomly sampled criterion weighting **vectors** . The procedure samples from the **entire** nondominated **set** , not just the set of nondominated extreme points, by computing the nondominated criterion vector that is closest to an ideal criterion vector according to a weighted Tchebycheff metric. The methodology has been applied to both convex and nonconvex problems.

Three models are developed. Solutions to the linear-convex model are not limited to the set of nondominated extreme points. In the single-season nonlinear-nonconvex model, the complete set of nondominated solutions is reachable by the Tchebycheff method. Optimal solutions are reachable only when the point of maximum utility and the ideal point are coincident. A third multi-season nonlinear-nonconvex model is developed which incorporates a reliability constrained reservoir model. Reliability levels are explicitly calculated. The model can be conditioned on seasonal forecasts and initial storage levels. A predictive linear decision rule incorporates the correlation structure of the Markov inflow process. The model is intended as a medium-term management model, especially suited for allocating water under drought conditions when initial storage conditions are low, seasonal forecasts are below the mean, and there is a lot of conflict between users.

17/5/13 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6413788 INSPEC Abstract Number: B2000-01-6135-056, C2000-01-5260B-082
Title: Object tracking in image sequences based on parametric features
Author(s): Hoischen, R.; Mertsching, B.; Springmann, S.
Author Affiliation: Dept. of Comput. Sci., Hamburg Univ., Germany
Journal: Elektrotechnik und Informationstechnik vol.116, no.6 p. 390-4
Publisher: Springer-Verlag,
Publication Date: 1999 Country of Publication: Austria
CODEN: EIEIEE ISSN: 0932-383X
SICI: 0932-383X(1999)116:6L.390:OTIS;1-L
Material Identity Number: L952-1999-008
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: In this paper a feature based algorithm for tracking moving objects with an active camera system is presented. It uses oriented structure elements like edges or lines for the estimation of motion-induced object displacements in gray- **level** input images. After an initial Gabor **filtering** process, a spatially extended structure consisting of simple local features in the filter response is merged into a vector of more complex features through a parameterization process. Corresponding vectors in two subsequent frames are detected by iteratively computing a **similarity** measure for **all feature vectors** . This enables the detection of larger object displacements because a proper parameterization leads to highly discriminable feature vectors describing certain image structures. (9 Refs)
Subfile: B C
Descriptors: active vision; feature extraction; image sequences; motion estimation; tracking
Identifiers: image sequences; object tracking; parametric features; moving objects tracking; active camera system; oriented structure elements; motion-induced object displacements estimation; gray-level input images; Gabor filtering process; spatially extended structure; filter response; object displacements; image structures
Class Codes: B6135 (Optical, image and video signal processing); C5260B (Computer vision and image processing techniques)

17/5/14 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

5882456 INSPEC Abstract Number: B9805-1270F-018, C9805-5240-014
Title: An adaptive **multivariate trimmed mean** filter **for color image enhancement**
Author(s): Kaijun Tang; Gabbouj, M.
Author Affiliation: Signal Process. Lab., Tampere Univ. of Technol., Finland
Conference Title: ECCTD '95 Proceedings of the 12th European Conference on Circuit Theory and Design Part vol.1 p.235-8 vol.1
Publisher: Istanbul Tech. Univ, Istanbul, Turkey
Publication Date: 1995 Country of Publication: Turkey 2 vol. xxxi+1176 pp.
ISBN: 975 561 061 8 Material Identity Number: XX95-02725
Conference Title: Proceedings of European Conference on Circuit Theory and Design: ECCTD '95 (ISBN 975 561 061 8) set of two vol
Conference Sponsor: Eur. Comm.; Sci. & Tech. Res. Council of Turkey; Turk Otomobil Fabrikasi; Northern Electr. Telecommun.; et al
Conference Date: 27-31 Aug. 1995 Conference Location: Istanbul, Turkey
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P); Theoretical (T); Experimental (X)

Abstract: In the filter, we established two **sets** of ordered multivariate samples using reduced-ordering (R-ordering) method. In the first **set** , **input vector** samples are ordered according to their **distance** to the marginal median in a window and in the second set according to their distance to the center sample in the window. If the center sample lies in the low-ranked part in the first set, M nearest samples to the marginal median are averaged as the filter output. Otherwise, D nearest samples to the center sample in the second set are averaged as the filter output. Suitable choices of M and D determine the noise attenuation, edge preservation and detail retention of the filter. (9 Refs)

Subfile: B C

Descriptors: **adaptive filters** ; edge detection; image enhancement; median filters; reduced order systems

Identifiers: **adaptive** multivariate trimmed mean **filter** ; color image enhancement; ordered multivariate samples; reduced-ordering method; input vector samples; marginal median; low-ranked part; filter output; noise attenuation; edge preservation; detail retention

Class Codes: B1270F (Digital filters); B6140C (Optical information, image and video signal processing); C5240 (Digital filters); C5260B (Computer vision and image processing techniques); C1250 (Pattern recognition)

17/5/15 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

5760767 INSPEC Abstract Number: B9801-0170L-011, C9801-3355-006

Title: Defect detection on leather by oriented singularities

Author(s): Branca, A.; Lovergine, F.P.; Attolico, G.; Distante, A.

Author Affiliation: Ist. Elaborazione Segneli ed Immegini, CNR, Bari, Italy

Conference Title: Computer Analysis of Images and Patterns. 7th International Conference, CAIP '97. Proceedings p.223-30

Editor(s): Sommer, G.; Daniilidis, K.; Pauli, J.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1997 Country of Publication: Germany xiii+737 pp.

ISBN: 3 540 63460 6 Material Identity Number: XX97-02316

Conference Title: Computer Analysis of Images and Patterns. 7th International Conference, CAIP '97 Proceedings

Conference Date: 10-12 Sept. 1997 Conference Location: Kiel, Germany

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T); Experimental (X)

Abstract: This paper presents a system for leather inspection based upon visual textural properties of the material surface. Defects are isolated from the complex and not homogeneous background by analyzing their strongly oriented structure. The patterns to be analysed are represented in an appropriate parameter space using an optimization approach: in this way a parameter **vector** is **associated** to **each** different textured **region** in the original image. Finally a **filter** process, based upon knowledge about the parameter vectors representing the leather without defects, detects and classifies any abnormality. (3 Refs)

Subfile: B C

Descriptors: automatic optical inspection; computer vision; **filtering** theory; image classification; image representation; image texture; materials; optimisation

Identifiers: defect detection; leather inspection; oriented singularities ; visual textural properties; material surface; pattern analysis; representation; parameter space; optimization; **filter** process; classification

Class Codes: B0170L (Inspection and quality control); B6140C (Optical information, image and video signal processing); B0260 (Optimisation techniques); C3355 (Control applications in manufacturing processes); C1250 (Pattern recognition); C5260B (Computer vision and image processing techniques); C1180 (Optimisation techniques)

17/5/16 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

5482576 INSPEC Abstract Number: A9705-4230-021, B9703-6140C-062, C9703-5260B-027
Title: Automated system for detection and classification of leather defects
Author(s): Branca, A.; Tafuri, M.; Attolico, G.; Distante, A.
Author Affiliation: Inst. Elaborazione Segnali ed Immagini, CNR, Bari, Italy
Journal: Optical Engineering vol.35, no.12 p.3485-94
Publisher: SPIE,
Publication Date: Dec. 1996 Country of Publication: USA
CODEN: OPEGAR ISSN: 0091-3286
SICI: 0091-3286(199612)35:12L.3485:ASDC;1-9
Material Identity Number: O036-97002
U.S. Copyright Clearance Center Code: 0091-3286/96/$6.00
Language: English Document Type: Journal Paper (JP)
Treatment: Applications (A); Theoretical (T); Experimental (X)
Abstract: A leather inspection system based on visual textural properties of the material surface is presented. Defects are isolated from the complex and nonhomogeneous background, analyzing their oriented structure. The patterns to be analyzed are represented in an appropriate parameter space using a neural network, in this way, a parameter **vector** is **associated** to **each** different textured **region** in the original image. Finally a **filter** process, based on knowledge about the parameter vectors representing the leather without defects, detects and classifies any abnormality. The resulting system is flexible and does not depend on dimensions, structure, and color of defects. (17 Refs)
Subfile: A B C
Descriptors: automatic optical inspection; computer vision; image classification; image texture; optical neural nets; spatial **filters**
Identifiers: leather defects classification; leather defects detection; leather inspection system; visual textural properties; material surface; nonhomogeneous background; oriented structure; parameter space; neural network; parameter vector; textured region; original image; **filter** process; image classification; computer vision
Class Codes: A4230S (Pattern recognition); A4230V (Image processing and restoration); A4280B (Spatial filters, zone plates); B6140C (Optical information, image and video signal processing); B0170L (Inspection and quality control); B4190F (Optical coatings and filters); B4180 (Optical logic devices and optical computing techniques); C5260B (Computer vision and image processing techniques); C1250 (Pattern recognition); C3355Z (Control applications in other manufacturing processes); C5290 (Neural computing techniques); C5270 (Optical computing techniques)

17/5/17 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

5189502 INSPEC Abstract Number: B9603-6140-317, C9603-5260-093
Title: Multivariate median and trimmed mean filters
Author(s): Estola, K.-P.
Author Affiliation: Nokia Res. Center, Helsinki, Finland
Conference Title: Signal Processing VII, Theories and Applications. Proceedings of EUSIPCO-94. Seventh European Signal Processing Conference Part vol.2 p.864-7 vol.2
Editor(s): Holt, M.J.J.; Cowan, C.F.N.; Grant, P.M.; Sandham, W.A.
Publisher: Eur. Assoc. Signal Process, Lausanne, Switzerland
Publication Date: 1994 Country of Publication: Switzerland 3 vol. lxi+1902 pp.
Material Identity Number: XX95-03101
Conference Title: Proceedings of EUSIPCO-94 - 7th European Signal Processing Conference

Conference Date: 13-16 Sept. 1994 Conference Location: Edinburgh, UK
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: This paper introduces a new **vector** median that has **similar** characteristics to the classical **vector** median. The proposed vector median finds the sample that is surrounded evenly by the other samples, i.e. relative to the median the rest of the input **set** is distributed evenly in **all** directions. The new **vector** median does not depend on the **distances** between the **vector** median and the rest of the input **set** but on the angles where the rest of the input set is seen. The structure of the new direction and magnitude trimmed mean **filters** correspond to multistage **filtering** where the first **stage** is a robust nonlinear operator followed by a linear operator in the second stage. Examples show that the performance of the proposed vector medians compares favourably to the reference methods. (8 Refs)
Subfile: B C
Descriptors: **filtering** theory; median **filters** ; signal processing; statistical analysis; vectors
Identifiers: multivariate median **filters** ; trimmed mean **filters** ; input set; multistage **filtering** ; robust nonlinear operator; linear operator; signal processing
Class Codes: B6140 (Signal processing and detection); B1270F (Digital filters); C5260 (Digital signal processing); C5240 (Digital filters)

17/5/18 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC

4467647 INSPEC Abstract Number: A9319-8770E-004
Title: Image restoration methods based on quantum field models
Author(s): Taxt, T.; Jain, A.K.
Author Affiliation: Bergen Univ., Norway
Conference Title: Conference Record of the 1991 IEEE Nuclear Science Symposium and Medical Imaging Conference (Cat. No.91CH3100-5) p.2165-70 vol.3
Publisher: IEEE, New York, NY, USA
Publication Date: 1991 Country of Publication: USA 3 vol. 2229 pp.
ISBN: 0 7803 0513 2
U.S. Copyright Clearance Center Code: 0 7803 0513 2/92/$03.00
Conference Sponsor: IEEE
Conference Date: 2-9 Nov. 1991 Conference Location: Santa Fe, NM, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: The multispectral image restoration method presented is based on an analogy between an image with N pixels and a 2-D solid with N particles on a regular grid. Each pixel is associated with a single particle (SP). The movement of each particle is described using SP models from quantum mechanics. The SP analogy is created by **associating** the observed **feature vectors** of **each** pixel and the noise covariance in the multispectral image with the potential energy function and the total energy of the physical system, respectively. The approach is used to design data-dependent image restoration **filters** applicable to multispectral images. The **filter** weights are **iteratively** updated using a deterministic relaxation scheme to reach a global equilibrium state. The restoration of simulated gray-scale images led to significantly better segmentations than typical spatial image enhancement procedures reported in the literature. The restoration of one real multispectral magnetic resonance image gave a substantial reduction in the noise while enhancing all real structures. (11 Refs)
Subfile: A
Descriptors: biomedical NMR; medical image processing
Identifiers: **iterative filter** weight updating; medical diagnostic imaging; quantum field models; multispectral image restoration method; feature vectors; noise covariance; potential energy function; data-dependent image restoration filters; deterministic relaxation scheme; global equilibrium state; simulated gray-scale images; multispectral

magnetic resonance image
Class Codes: A8770E (Diagnostic methods and instrumentation); A8760G (Laser beams, microwaves, and other electromagnetic waves); A8710 (General, theoretical, and mathematical biophysics)

17/5/19 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02776948 JICST ACCESSION NUMBER: 96A0387826 FILE SEGMENT: JICST-E
Simultaneous Motion Estimation and Segmentation Based on Pixel-wise Matching Information.
OAMI RYOMA (1); AIZAWA KIYOHARU (2); HATORI MITSUTOSHI (2)
(1) NEC Corp.; (2) Univ. of Tokyo, Fac. of Eng.
Terebijon Gakkaishi(Journal of the Institute of Television Engineers of Japan), 1996, VOL.50,NO.3, PAGE.373-379, FIG.7, REF.8
JOURNAL NUMBER: F0330ABG ISSN NO: 0386-6831
UNIVERSAL DECIMAL CLASSIFICATION: 681.3:621.397.3
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: The method proposed in this paper uses the area of the region around each pixel with small matching errors as a criterion for motion estimation and segmentation. This **area** is calculated for **each** displacement **vector** through directional **distance** transformation of a binary image obtained by threshoulding the **matching** error at each pixel. On the basis of this **area** , the proposed method selects candidate **vectors** at each pixel and determines one of them to be the motion vector by majority rule in a local region. As a result, an image is divided into regions with uniform motion. This method has the advantage of being insensitive to surface textures since it uses only matching errors. The simulation results show that this method can perform well both motion estimation and segmentation even along motion boundaries when regions with coherent motion are relatively large. (author abst.)
DESCRIPTORS: image processing; moving image; segmentation(computer); matching(graph); digital image; pixel; threshold; **filtering** ; estimation; motion estimation
BROADER DESCRIPTORS: information processing; treatment; image; matching; numerical value; signal processing; detection
CLASSIFICATION CODE(S): JE04010I

17/5/20 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

14126482 PASCAL No.: 99-0322609
Fast kNN classification algorithm based on partial distance search
HWANG W J; WEN K W
Chung Yuan Christian Univ, Chungli, Taiwan
Journal: Electronics Letters, 1998, 34 (21) 2062-2063
ISSN: 0013-5194 CODEN: ELLEAK Availability: INIST-12270
No. of Refs.: 5 Refs.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
A new fast kNN classification algorithm is presented for texture and pattern recognition. The algorithm identifies the first k closest **vectors** in the design **set** of a kNN classifier for **each input vector** by performing the partial **distance** search in the wavelet domain. Simulation results show that, without increasing the classification error rate, the algorithm requires only 12.94% of the computational time of the original kNN technique.

English Descriptors: Classification algorithms; Partial **distance** search;

Tree structured **vector** quantiser; Discrete wavelet transform; Application; Pattern recognition; Computational complexity; **Vectors** ; Wavelet transforms; Digital **filters** ; **Set** theory; Algorithms; Theory

French Descriptors: Application; Reconnaissance forme; Complexite calcul; Vecteur; Transformation ondelette; Filtre numerique; Theorie ensemble; Algorithme; Theorie

Classification Codes: 001D02B12; 001D02A; 001A02C; 001A02E; 001D05H; 001A02B

17/5/21 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

02058041 Genuine Article#: JX817 Number of References: 12
Title: EQUAL-AVERAGE HYPERPLANE PARTITIONING METHOD FOR VECTOR QUANTIZATION OF IMAGE DATA
Author(s): GUAN L; KAMEL M
Corporate Source: UNIV WATERLOO,DEPT SYST DESIGN ENGN/WATERLOO N2L 3G1/ONTARIO/CANADA/; UNIV WATERLOO,DEPT SYST DESIGN ENGN/WATERLOO N2L 3G1/ONTARIO/CANADA/
Journal: PATTERN RECOGNITION LETTERS, 1992, V13, N10 (OCT), P693-699
ISSN: 0167-8655
Language: ENGLISH Document Type: ARTICLE
Geographic Location: CANADA
Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology & Applied Sciences
Journal Subject Category: COMPUTER APPLICATIONS & CYBERNETICS
Abstract: We propose a faster **nearest neighbor** search method for image data **vector** quantization. The method uses hyperplanes orthogonal to the central line direction of the coordinate system to partition the search space. The data structure required by the method is very simple and its size is independent of the dimensionality of the search space.
Descriptors--Author Keywords: **VECTOR** QUANTIZATION ; **NEAREST NEIGHBOR** SEARCHING ; VORONOI **REGIONS** ; HYPERPLANE PARTITIONING
Identifiers--KeyWords Plus: ALGORITHM; TIME
Research Fronts: 90-0857 002 (VECTOR QUANTIZATION; DESIGN OF 2-DIMENSIONAL FIR DIGITAL- **FILTERS** ; LAPPED TRANSFORMS FOR EFFICIENT TRANSFORM SUBBAND CODING)
Cited References:
BENTLEY JL, 1980, V6, P563, ACM T MATH SOFTWARE
CHENG D, 1986, 1986 IEEE INT C AC S
FRIEDMAN JH, 1977, V3, P209, ACM T MATH SOFTWARE
FRIEDMANN JH, 1975, V25, P1000, IEEE T COMPUT
GRAY RM, 1984, P4, IEEE ASSP MAG APR
GUAN L, 1991, THESIS U WATERLOO
HYAFIL L, 1976, V5, P15, INFORMATION PROCESSI
KOH JS, 1988, V24, P1082, ELECTRON LETT
LINDE Y, 1980, V28, P84, IEEE T COMMUN
RUIZ EV, 1986, V4, P145, PATTERN RECOGN LETT
WU X, IN PRESS IEEE T COMM
YUNK TP, 1976, V6, P678, IEEE T SYST MAN CYB

17/5/22 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

00795476 I94066000258
Distortion invariant Volterra filters
(Distorsionsinvariante Volterra- **Filter**)
Gheen, G
Res. & Dev. Div., Lockheed Missiles & Space Co. Inc., Palo Alto, CA, USA
Pattern Recognition, v27, n4, pp569-576, 1994
Document type: journal article Language: English

Record type: Abstract
ISSN: 0031-3203

ABSTRACT:
Volterra **filters** are constructed to recognize images independent of changes caused by a linear transformation group (e.g. rotation, scaling, etc.). Volterra **filters** are polynomial functions that can model analytic vector functions with arbitrary precision. The theory of invariant Volterra **filters** is developed for a general polynomial order; however, particular emphasis is given to quadratic **filters** . Quadratic **filters** are the lowest order Volterra **filter** that provide a non-linear response. This suggests a new approach to invariant pattern recognition based upon **nearest neighbor** classification with respect to an invariant manifold. Both theoretical and simulation results suggest that quadratic **filters** can provide invariant pattern recognition with high discrimination and robustness to noise.

DESCRIPTORS: ROTATIONS; ROBUSTNESS; **FILTER** THEORY; ESTIMATION; IMAGE RECOGNITION; POLYNOMIALS; INVARIANCE; NONLINEARITY; CLASSIFICATION; NOISE PROPERTIES; FUNCTIONAL ANALYSIS; SCALING
IDENTIFIERS: **FILTERING** AND PREDICTION THEORY; DISTORTION INVARIANT VOLTERRA **FILTERS** ; LINEAR TRANSFORMATION **GROUP** ; POLYNOMIAL FUNCTIONS; ANALYTIC **VECTOR** FUNCTIONS; QUADRATIC **FILTERS** ; NONLINEAR RESPONSE; **NEAREST NEIGHBOR** CLASSIFICATION; INVARIANT MANIFOLD; HIGH DISCRIMINATION ; Volterra- **Filter** ; Distorsion; Invarianz

17/5/24 (Item 1 from file: 239)
DIALOG(R)File 239:Mathsci

01020629 MR 8,572a
Sur la generalisation de la notion de systeme derivant.
de Possel, Rene
C. R. Acad. Sci. Paris
1947, 224,, 1137--1139
Language: French
Document Type: Journal
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: MEDIUM (14 lines)
Let m be a given measure over a Borelian system $\germ I$, $\overset\rightarrow\to\vartheta$ any enumerably additive **set** -function over $\germ I$, of bounded variation into a complete normed **vector** -space. We **associate** to **each** point x a **filter** $\scr F\sb x$ of nonnegative $\germ I$-measurable real functions. Such a **filter** -system is called weakly deriving if, for every Lipschitz function $\overset\rightarrow\to\vartheta$, $$ \overset\rightarrow\to D=\lim\sb {\scr F\sb x}\int f\,d\overset\rightarrow\to\vartheta\Bigg/\int f\,dm $$ exists almost everywhere (m), and yields $\overset\rightarrow\to\vartheta$ by m-integration; strongly deriving if the same holds for every m-absolutely continuous $\overset\rightarrow\to\vartheta$. Conditions are stated (without proof) for a given **filter** -system to have either property.

```
File 275:Gale Group Computer DB(TM) 1983-2004/Dec 10
         (c) 2004 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Dec 10
         (c) 2004 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2004/Dec 10
         (c) 2004 The Gale Group
File  16:Gale Group PROMT(R) 1990-2004/Dec 10
         (c) 2004 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2004/Dec 10
         (c)2004 The Gale Group
File 624:McGraw-Hill Publications 1985-2004/Dec 09
         (c) 2004 McGraw-Hill Co. Inc
File  15:ABI/Inform(R) 1971-2004/Dec 10
         (c) 2004 ProQuest Info&Learning
File 647:CMP  Computer Fulltext 1988-2004/Nov W4
         (c) 2004 CMP Media, LLC
File 674:Computer News Fulltext 1989-2004/Sep W2
         (c) 2004 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2004/Dec 09
         (c) 2004 The Dialog Corp.
File 369:New Scientist 1994-2004/Nov W4
         (c) 2004 Reed Business Information Ltd.

Set     Items   Description
S1        800   (QUERY OR FEATURE OR INPUT)(1W)VECTOR? ?
S2        110   S1(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NE-
                AR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR
                COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S3      25358   FILTER???(10N)(ITERAT? OR ADAPTIV? OR LEVEL? ? OR TIER?? OR
                STAGE? ? OR PHASE? ?)
S4         36   (NEAREST OR CLOSEST)(1W)CANDIDATE? ?
S5        829   (REGION? ? OR AREA? ? OR CLUSTER? ? OR GROUP? ? OR SET? ?)-
                (7N)VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENE-
                SS OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALO-
                GOUS? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S6       2067   (NEAREST OR CLOSEST)(1W)NEIGHBOR???
S7        371   ((ALL OR EVERY OR ENTIRE OR EACH)(5N)VECTOR? ?)(7N)(SIMILA-
                R? OR DISTANCE? ? OR CLOSE OR CLOSENESS OR NEAR???? OR PROXIM?
                OR EQUIVALEN?? OR MATCH??? OR ANALOGOUS? OR COMPARABLE OR CO-
                RRELAT? OR ASSOCIAT?)
S8          1   S2(50N)S3(50N)S4:S5(50N)S6:S7
S9          2   S2(50N)S3(50N)S4:S7
S10         1   S2(50N)FILTER???(50N)S4:S5(50N)S6:S7
S11      6222   VECTOR? ?(7N)(SIMILAR? OR DISTANCE? ? OR CLOSE OR CLOSENESS
                OR NEAR???? OR PROXIM? OR EQUIVALEN?? OR MATCH??? OR ANALOGO-
                US? OR COMPARABLE OR CORRELAT? OR ASSOCIAT?)
S12         3   S11(50N)FILTER???(50N)S4:S5(50N)S6:S7
S13        32   S11(50N)FILTER???(50N)S4:S7
S14        32   S8:S10 OR S12:S13
S15        23   RD (unique items)
```

15/3,K/1 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

02609742 SUPPLIER NUMBER: 87012022 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Theory of keyblock-based image retrieval.
Zhu, Lei; Rao, Aibing; Zhang, Aidong
ACM Transactions on Information Systems, 20, 2, 224(34)
April, 2002
ISSN: 1046-8188 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 12987 LINE COUNT: 01072

... 8 blocks so that the coherent vector and the non-coherent vector together contribute a **vector** of dimension 2048. The **similarity** measure is simply the Euclidean **distance** measured by regarding **each feature vector** as a one-dimensional vector.
Haar and Daubechies wavelet texture techniques (Smith and Chang 1994 ...

...sub-band decomposition are performed on each image. Each of the sub-bands obtained after **filtering** has uniform texture information. Each three- **level** transformation produces 10 sub-bands. Features were extracted by energy estimation in sub-bands. Two...

15/3,K/2 (Item 2 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

02363089 SUPPLIER NUMBER: 58545238 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The Answer Machine.(information services management)(Industry Trend or Event)
Feldman, Susan
Searcher: The Magazine for Database Professionals, 8, 1, 58
Jan, 2000
ISSN: 1070-4795 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 13252 LINE COUNT: 01042

... you have chosen. You can sort by search engine or by URL. Puffin automatically forms **clusters** based on the **similarity** of a **group** of documents, using a **similar** technique to the **vector** space model. You when you use it as a **filtering** tool.
Netbook, developed by the Human Computer Interaction Group at Cornell University (http://www.hci...

15/3,K/3 (Item 3 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

02359958 SUPPLIER NUMBER: 58374348 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Nortel Networks Leads the Pack With Accelar Enterprise Switch.(the Accelar 8600)(Hardware Review)(Evaluation)
Conover, Joel
Network Computing, 16
Dec 27, 1999
DOCUMENT TYPE: Evaluation ISSN: 1046-4468 LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 1186 LINE COUNT: 00097

... support also are new to the platform. The switch can be configured to tag and **filter** based on the IP ToS field. It also can translate 802.1p priority bits to...

...user-definable mapping table. The Accelar will ship with advanced multicast features, including IGMP (Internet **Group** Management Protocol) snooping and proxying and support for DVMRP (**Distance Vector** Multicast Routing Protocol).

The Accelar 8600 can be managed from the command line, a Web...

15/3,K/4 (Item 4 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

02213216 SUPPLIER NUMBER: 21078830 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Corel Photo-Paint 8.(one of six image-editing packages tested) (Software Review)(Evaluation)
Computer Shopper, v18, n10, p284(1)
Oct, 1998
DOCUMENT TYPE: Evaluation ISSN: 0886-0556 LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 529 LINE COUNT: 00044

... are selected as the individual object. The manipulation tools--that is, resize, rotate, skew, and **group** --are **comparable** with those in a **vector** -based program such as CorelDraw. The Object manager is especially slick, letting you quickly convert...

...Like Photoshop and Wright Design, Photo-Paint supports adjustment layers (here called lenses) that apply **filter** effects to a disposable layer. The extensive options include color correction (such as tone curve...

15/3,K/5 (Item 5 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

02092486 SUPPLIER NUMBER: 19535420 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Summit switches support Gigabit Ethernet.(Extreme Networks Summit1 and Summit2)(Product Announcement)(Brief Article)
Westrich, Kate; Holmes, Korren; Tribble, Erin
Network, v12, n7, p141(1)
July, 1997
DOCUMENT TYPE: Product Announcement Brief Article LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 238 LINE COUNT: 00023

... both Layer 2 and Layer 3. It has a 17.5Gbits/sec backplane and can **filter** and forward 11.5 million pps using IP routing protocols. Summit2, designed to support uplinks...

...ports and 16 10/100 Ethernet ports. It has an 8.5Gbits/sec backplane and **filters** , and forwards 5 million pps in either Layer 2 or Layer 3 switching mode.
Both...

...Service in an Ethernet environment. The software supports the RSVP protocol for bandwidth reservation; the **Distance Vector** Multicast Routing Protcol and Internet **Group** Management Protocol for multicast control; and Virtual LAN support based on the IEEE 802.1P...

15/3,K/6 (Item 6 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01631867 SUPPLIER NUMBER: 14822335 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Vector signal analyzers for difficult measurements on time-varying and complex modulated signals. (HP's 894xxA signal analyzers) (Technical)
Blue, Kenneth J.; Cutler, Robert T.; O'Brien, Dennis P.; Wagner, Douglas R. ; Zarlingo, Benjamin R.
Hewlett-Packard Journal, v44, n6, p6(11)
Dec, 1993
DOCUMENT TYPE: Technical ISSN: 0018-1153 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 9831 LINE COUNT: 00793

... not a receiver optimized for a particular type of signal, the optimum bandwidth for the **filter** cannot be determined beforehand. Many traditional spectrum analyzers also have demodulators. In these instruments the resolution bandwidth **filters** serve to limit the information bandwidth. However, with only a finite number of resolution bandwidth **filters** to choose from, it's possible that the user is left with a choice between a **filter** that is either too narrow to pass the signal or too wide to reject another signal in **close proximity** . With the **vector** signal analyzer's infinitely adjustable bandwidth, an optimal information bandwidth can be **set** for any class of signal or measurement. In the vector signal analyzer the terms span...

15/3,K/7 (Item 7 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01549488 SUPPLIER NUMBER: 13039891 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Personalized information delivery: an analysis of information filtering methods. (Information Filtering)(Technical) (Cover Story)
Foltz, Peter W.; Dumais, Susan T.
Communications of the ACM, v35, n12, p51(10)
Dec, 1992
DOCUMENT TYPE: Cover Story ISSN: 0001-0782 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 7965 LINE COUNT: 00629

... unique terms, words will not be independent. For example, if two terms are used in **similar** contexts (documents), they will have similar vectors in the reduced-dimension LSI representation. One advantage...

...vector space containing a vector for each term and each document. The location of term **vectors** reflects the **correlations** in their usage across documents. **Similarly** , the location of document **vectors** reflects **correlations** in term usage. In this space the cosine or dot product between **vectors** corresponds to their estimated **similarity** . Retrieval proceeds by using the terms in a query to identify a **vector** in the space, and **all** documents are then ranked by their **similarity** to the query **vector** . The LSI method has been applied to several standard IR collections with favorable results. LSI...

...can improve LSI performance substantially [7].
Filtering Using IR Techniques
In both LSI and keyword **vector matching** , documents are represented as **vectors** in a high-dimensional space. In keyword vectors, the values on each dimension are determined...these comparisons. Thus, the same terms and term weights were used for both the standard **vector** and LSI **vector** methods. In **all** cases, the cosine between **vectors** was used as the measure of **similarity** .
Figure 1 shows the process used for **filtering** . New TM abstracts were matched against employees' word and document profiles using the two matching...the word profile.
The score for each new TM was the cosine between the TM **vector** and the **nearest** interest **vector** . The new TMs were then ranked based on their maximum cosine score. Thus, TMs occurring...

15/3,K/8 (Item 8 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01373650 SUPPLIER NUMBER: 09449779 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Thinx sketches your data. (Bell Atlantic's data base manager for Microsoft Windows 3.0) (Software Review) (includes related article on intelligent graphics) (evaluation)
Prosise, Jeff

PC Magazine, v9, n17, p43(1)
Oct 16, 1990
DOCUMENT TYPE: evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 802 LINE COUNT: 00061

... The weakest step in the Thinx process is creating the graphic images. Thinx supplies a **set** of built-in **vector** -oriented drawing tools that is **similar** but less robust to those found in dedicated drawing packages. You can also import images...

...Data for entire ranges of objects may be viewed in tables. A search option can **filter** the objects represented in these tables by setting up search criteria. You can even have...

15/3,K/9 (Item 1 from file: 621)
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)

02955435 Supplier Number: 76989214 (USE FORMAT 7 FOR FULLTEXT)
eshare NetAgent ANSWER Awarded Best of Show At Customer Inter@ction Solutions Conference and Expo.
PR Newswire, pNA
August 6, 2001
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 726

... stand alone application or as part of NetAgent Suite, the solution can, in some cases, **filter** up to 90% of all incoming e-mails and provide accurate and timely responses to...

...the need for human assistance. NetAgent ANSWER's neural network-based learning algorithm uses context **vector** technology to automatically **group** data into **similarly** -themed **clusters** for improved accuracy and relevance. Of particular value to customers is the functionality that enables...

15/3,K/10 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

05831609 Supplier Number: 119518439 (USE FORMAT 7 FOR FULLTEXT)
Profiles and Levels.
Video Systems, v30, n7, pNA
July 1, 2004
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 2064

... Despite the flexible encoding process, there are specific stages involved in encoding. First, video is **filtered** to remove image noise. (An image may be a video field or an interlaced video...

...at the identical X and Y coordinates. If the macroblock has not moved, its "motion **vector** " is **set** to zero. Until there is a **match** , the comparison macroblock is moved in a methodical manner in all directions at increasing distances from its origin. The displacement (direction and distance moved) before a **match** is made determines the macroblock's motion **vector** .

This process is repeated for **each** macroblock until **all** motion **vectors** have been computed between the initial image and an adjacent image. Performing the iterative search...

15/3,K/11 (Item 2 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

03984802 Supplier Number: 53060267 (USE FORMAT 7 FOR FULLTEXT)
Orientia tsutsugamushi Scrub Typhus Could Be Transmitted by Blood Transfusion.
World Disease Weekly Plus, pNA
Oct 5, 1998
Language: English Record Type: Fulltext
Document Type: Newsletter; Professional Trade
Word Count: 871

... inoculated with intracellular rickettsiae," Casleton et al. wrote. "With recent advances in white cell reduction **filters** , more than 99.9 percent of white cells can be removed from blood components. Because ...

...a useful procedure for preventing transfusion-transmitted rickettsial disease."

Scrub typhus occurs most often in **groups** of people whose activities bring them into **close** contact with the **vector** , a larval mite or chigger (species in the genus Leptotrombidium). The **vector** frequently is found in **areas** with secondary vegetation and abundant rodent activity (Traub and Wisseman, J Med Entomol, 1974;11...

15/3,K/12 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

11618351 Supplier Number: 124337037 (USE FORMAT 7 FOR FULLTEXT)
Pushing the limits.(editor's desk)
Anderson, Stephen G.
Laser Focus World, v40, n10, pS3(1)
Oct, 2004
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 310

... research of Arthur R. Weeks and colleagues at the University of Central Florida in nonlinear **filtering** of color images, which is more complex than nonlinear **filtering** of grayscale images. In nonlinear **filtering** each pixel in a color image is viewed as a three-dimensional vector and the article describes the development of a **set** of morphological operators to order the **vector** data.

Stephen G. Anderson
Associate Publisher/Editor in Chief
Stevega@pennwell.com

15/3,K/13 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

01767803 Supplier Number: 42219364 (USE FORMAT 7 FOR FULLTEXT)
Togai dedicated to fuzzy logic
Electronic Engineering Times, p35
July 15, 1991
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 1084

... the CS. Once such a vector is input, the CS searches a dictionary of feature **vectors** to find **matches** . When finished, the CS device has calculated the closeness of the new sample to each dictionary entry, sorting that list into the 100 (or 52) closest (or furthest) **matches** .

The CS device brings **each** new feature **vector** into its on-chip RAM, before comparing it with each of the entries it keeps...

...The chip comes in 120-pin PGA.
Following will be the introduction of the Spatial **Filter** Chip, which processes a 3-pixel-by-3-pixel moving frame (8 bits per pixel...

15/3,K/14 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

09869396 SUPPLIER NUMBER: 19990484 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Home Box Office Selects LikeMinds Personalization Software for Second Network Site
PR Newswire, p1117SFM023
Nov 17, 1997
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 737 LINE COUNT: 00069

... provides personalization and direct marketing solutions using a highly accurate and advanced form of collaborative **filtering** , a technology LikeMinds pioneered and patented. LikeMinds collaborative **filtering** creates a multidimensional, weighted **cluster** of **similar** products around each target. Then it creates a prediction **vector** for that target by finding behaviors that **match** the behavior of the target. "LikeMinds technology offers interactive and direct marketers several advantages over...

15/3,K/15 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

09841209 SUPPLIER NUMBER: 19785332 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Using nonlinear dynamics to test for market efficiency among the major U.S. stock exchanges. (includes appendix)
Kohers, Theodor; Pandey, Vivek; Kohers, Gerald
Quarterly Review of Economics and Finance, v37, n2, p523(23)
Summer, 1997
ISSN: 1062-9769 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 7407 LINE COUNT: 00612

... portfolio returns, dimensionality of higher than ten is not investigated. The BDS statistic examines the **proximity** of the data **vectors** (of dimensionality m) from **each** other, relative to a **distance** unit (Epsilon). If too small a value of (Epsilon) is selected, then too few **vectors** will lie " **close** " together. On the other hand, if too large a value of (Epsilon) is selected, too many m-history **vectors** will lie " **close** " together. For **each** of the data series examined in this study, BDS statistics are computed for (Epsilon) = 0...

...Table 1 are statistically significant at the .01 level. Thus, the null hypothesis that the **filtered** portfolio returns examined

15/3,K/16 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

05132568 SUPPLIER NUMBER: 10502207 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The autonomous vacuum cleaning robot. (CyberVac II vacuum)
Burhanpurkar, V.P.
Appliance, v48, n3, p55(2)
March, 1991
ISSN: 0003-6781 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 1353 LINE COUNT: 00111

... noise errors, and other non-idealities corrupt map data. The company's approach is to **associate** probable error **vectors** with high

critical data **sets** . These **vectors** combine to reduce or normalize the degree of error in the system and to cancel...

...the observable space into regions that are time multiplexed. Comparison can then be made to **filter** dynamic from static elements. This approach has had limited success but is significant in its...

15/3,K/17 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2004 ProQuest Info&Learning. All rts. reserv.

02608019 372742401
Filters on routers: The price of performance
Newman, David
Network World v20n28 PP: 35 Jul 14, 2003
ISSN: 0887-7661 JRNL CODE: NWW
WORD COUNT: 4365

...TEXT: All vendors support at least some form of multicast routing. Lucent supports only the older **distance vector** multicast routing protocol, while **all** other vendors support protocol-independent multi-cast in either its dense- or sparse-mode variations (or both).

Packet **filtering** : While source or destination IP address are the most common **filter** criteria, most routers support numerous other options. In the IP header, all routers support **filtering** by protocol number or type-of-service (TOS) field contents, all except Tasman's support **filtering** on Differentiated Services Code Point, another quality-of-service mechanism that is a superset of the TOS field, All routers except Tasman's also **filter** on Layer 2 criteria such as Ethernet media access control addresses and virtual LAN IDs...

15/3,K/18 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2004 ProQuest Info&Learning. All rts. reserv.

02559647 324309241
A time-series framework for supply-chain inventory management
Aviv, Yossi
Operations Research v51n2 PP: 210-227 Mar/Apr 2003
ISSN: 0030-364X JRNL CODE: OPR

...ABSTRACT: to certain explanatory variables of the demand, with the latter possibly evolving according to a **vector** autoregressive time series. For **each** member, an **associated** demand evolution model is identified, for which an adaptive inventory replenishment policy is proposed that utilizes the Kalman **filter** technique. A simple methodology is provided for assessing the benefits of various types of information...

15/3,K/19 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2004 ProQuest Info&Learning. All rts. reserv.

02051364 57306759
Automatic personalization based on Web usage mining
Mobasher, Bamshad; Cooley, Robert; Srivastava, Jaideep
Association for Computing Machinery. Communications of the ACM v43n8 PP: 142-151 Aug 2000
ISSN: 0001-0782 JRNL CODE: GACM
WORD COUNT: 5953

...TEXT: caregories). Another advantage of this representation is that the profiles themselves can be viewed as **vectors** , thus facilitating the task of **matching** a current user session with **similar** profiles using standard **vector** operations.

Table 1.

Table 2.

Traditional collaborative **filtering** techniques are often based on real-time matching of the current user's profile against similar records (**nearest neighbors**) obtained by the system over time from other users. However, as noted in recent studies [7], it becomes hard to scale collaborative **filtering** techniques to a large number of items (for example, pages or products), while maintaining reasonable...

15/3,K/20 (Item 4 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02051363 57306710
A broader approach to personalization
Cingil, Ibrahim; Dogac, Asuman; Azgin, Ayca
Association for Computing Machinery. Communications of the ACM v43n8 PP: 136-141 Aug 2000
ISSN: 0001-0782 JRNL CODE: GACM
WORD COUNT: 3681

...TEXT: this resource and total number of visits. In forming the user profile clusters a collaborative **filtering** technique similar to the one described in [7] is used. In this technique the user...

...multidimensional space of concept hierarchy vectors by also taking visit counts into account. After representing **each** user profile as a **vector** , the **similarities** between the profiles are found based on a measure of **distance** . Based on these similarities user profile **clusters** are formed. It should be noted that that

15/3,K/21 (Item 5 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02042076 56384743
Validating a geographical image retrieval system
Zhu, Bin; Chen, Hsinchun
Journal of the American Society for Information Science v51n7 PP: 625-634 May 2000
ISSN: 0002-8231 JRNL CODE: ASI

...ABSTRACT: of the Geographical Knowledge Representation System with image retrieval by human subjects is compared. Gabor **filters** are used to extract low level features from 128-squared pixel tiles cut from aerial photograph images. A 60 feature **vector** describes **each** tile and a Euclidean **distance similarity** measure is used to sort the tile images by least **distance** . Adjacent **similar** tiles are grouped to create **regions** which in turn are represented with derived **vectors** . Kohonen's Self Organizing Map (SOM) is created showing tiles representing the textures to be...

15/3,K/22 (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext

01206945 CMP ACCESSION NUMBER: NWC19991227S0006
Nortel Networks Leads the Pack With Accelar Enterprise Switch
Joel Conover
NETWORK COMPUTING, 1999, n 1026, PG16
PUBLICATION DATE: 991227
JOURNAL CODE: NWC LANGUAGE: English

RECORD TYPE: Fulltext
SECTION HEADING: Sneak Previews
WORD COUNT: 1101

... support also are new to the platform. The switch can be configured to tag and **filter** based on the IP ToS field. It also can translate 802.1p priority bits to...

...user-definable mapping table. The Accelar will ship with advanced multicast features, including IGMP (Internet **Group** Management Protocol) snooping and proxying and support for DVMRP (**Distance** **Vector** Multicast Routing Protocol).

The Accelar 8600 can be managed from the command line, a Web...

15/3,K/23 (Item 2 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext

00594352 CMP ACCESSION NUMBER: EET19910715S3568
Togai dedicated to fuzzy logic
R. COLIN JOHNSON
ELECTRONIC ENGINEERING TIMES, 1991, n 650, 35
PUBLICATION DATE: 910715
JOURNAL CODE: EET LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Technology
WORD COUNT: 1096

... the CS. Once such a vector is input, the CS searches a dictionary of feature **vectors** to find **matches** . When finished, the CS device has calculated the closeness of the new sample to each dictionary entry, sorting that list into the 100 (or 52) closest (or furthest) **matches** .
The CS device brings **each** new feature **vector** into its on-chip RAM, before comparing it with each of the entries it keeps...

...The chip comes in 120-pin PGA.
Following will be the introduction of the Spatial **Filter** Chip, which processes a 3-pixel-by-3-pixel moving frame (8 bits per pixel...